Data appendix for economic growth in the long run

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Abstract

This extended data appendix describes the sources and methods used to construct the data used in our paper *Economic Growth in the Long Run.*

1   Introduction

This data appendix describes the sources and procedures used to construct Figures 1-4 in the text, as well as the data for all of the empirical analyses. Almost all of the real output data come from Maddison. We used two different sources, which occasionally differ, but generally are quite similar: Maddison (1995) *Monitoring the World Economy: 1820-1992*, and Maddison (2003) *The World Economy: Historical Statistics.* All of Maddison source data is listed in 1990 Geary-Khamis dollars. We converted these into 2000 international dollars using the US GDP deflator. This keeps the data roughly consistent with our earlier work, Baier, Dwyer and Tamura (2006), except for change of base year. For 2007, 2000, 1990, 1980 and occasionally even back to 1970, 1960, 1950, we occasionally used information from the World Bank rebenchmarking project. This is the most comprehensive PPP adjusted estimates of living standards across countries by the World Bank. However we generally used Maddison when we had both observations. The results are contained in 2005 International Comparison Program: Tables of Final Results, February 2008. In order to place these 2005 estimates into 2007, we used the 2008 World Development Report, which provides 2005-2007 per capita GDP growth. We used the 2007 growth rate of the United States as the base. Hence we extrapolated the 2005 rebenchmarked US per capita income using the 2007 growth rate from the World Bank to produce a 2007 US estimate. We then used the relative 2005 living standard from the rebenchmarking project, multiplied by the US 2007 base output per capita, and multiplied by the relative growth rates from 2005-2007. Ignoring the change in base dollar calculation, in equation form we used:

Unless noted otherwise, all schooling data, historical age distribution data, investment data come from B. R. Mitchell (2003). I abbreviate this source as Mam, Maa, Meu for *International Historical Statistics: the Americas, 1750-2000, International Historical Statistics: Africa, Asia and Oceania, 1750-2000*, and *International Historical Statistics: Europe, 1750-2000.* For some population figures in 1980 and 1990 we used those from Summers and Heston online, hereafter abbreviated as S & H online. For 2000 population

we used data from the Time Almanac 2001. For 2006 population we used data from *Time Almanac 2007*. Some age distribution data is not available from Mitchell. These are typically smaller undeveloped countries of Africa and Asia. Typically we do not have data prior to 1950. We used data from Keyfitz and Flieger (1990), which provide age distribution data in quinquennial manner from 1950-2000.

1.1 Physical Capital

Physical capital investment rates prior to 1992 were measured using Mam, Maa, and Meu. Mam, Maa and Meu provide annual information on gross physical capital formation. Between the census years t-1 and t, we calculate the mean investment rate. Most of the data comes from real capital formation as a fraction of real income, but when this data was missing we substituted nominal values of capital formation relative to nominal income. For some countries we used investment rates from S & H online. In order to calculate physical capital per worker, we created average investment rates over the coverage years. For example suppose we have two observations on income per worker in 1990 and 2000, respectively. In order to calculate the physical capital per worker in 2000 we use the average investment rate from 1990 to 1999 inclusive. We use a perpetual inventory method of calculation. In order to illustrate this method, assume that we observe output per worker in 1990 and 2000, y_{1990} and y_{2000}, respectively. Let i_{2000} be the average investment rate for years 1990 to 1999 inclusive, and i_{1990} be the investment rate in 1990. Finally assume that k_{1990} is the physical capital per worker in 1990. Physical capital per worker in 1991 would be given by:

$$k_{1991} = \frac{k_{1990}(1-\delta) + y_{1990}i_{1990}}{g_w} \tag{1}$$

where g_w is the growth rate of the labor force between 1990 and 1991, and δ is the annual depreciation rate on capital. Now let g_y be the annualized growth rate of output per worker from 1990 to 2000 and redefine g_w to be the annualized growth rate of labor force between 1990 and 2000. Repeated substitution of the above relation produces:

$$k_{2000} = i_{2000}y_{1990} \sum_{i=0}^{9} \frac{(1-\delta)^i g_y^{9-i}}{g_w^{i+1}} + \frac{(1-\delta)^{10}k_{1990}}{g_w^{10}} \tag{2}$$

The first term on the right hand side is, by assumption, a finite geometric sum and hence finite. The last term is an exponentially decaying term of the previous periods physical capital per worker. Thus we can rewrite the above expression as:

$$k_{2000} = i_{2000}y_{1990} \frac{\frac{g_y^9}{g_w}\left[1 - \frac{(1-\delta)^{10}}{g_y g_w^{11}}\right]}{1 - \frac{(1-\delta)}{g_y g_w}} + \frac{(1-\delta)^{10}k_{1990}}{g_w^{10}} \tag{3}$$

Notice that now we must pick an initial condition, the initial capital per worker value. We assume that in the initial observation, physical capital is on the balanced growth path. Thus assume that the first year of observation is x, then under the assumption that k_x is on the balanced path, it grows at the rate of output growth, g_y. Thus it solves the following relation:

$$k_x = \frac{i_x y_x}{g_w\left(g_y - \frac{(1-\delta)}{g_w}\right)} \tag{4}$$

2

What values of δ_t to use? We assumed that δ_t was a step function in the output per worker, y_t. Thus for low levels of productivity, we think of capital as essentially structures, houses, barns, etc. At higher levels of productivity, we think of capital as manufacturing equipment and structures. Finally at the highest level of productivity, we think of capital as structures and higher technology capital. This produces for any country i:

$$\delta_{it} = .03, \text{ if } y_{it} < 17500 \tag{5}$$

$$\delta_{it} = .04, \text{ if } 17500 \leq y_{it} < 40000 \tag{6}$$

$$\delta_{it} = .05, \text{ if } 40000 \leq y_{it}. \tag{7}$$

These rates are consistent with producing $\frac{k}{y}$ ratios for rich countries that are around 3 in 2007. With an average $\delta = .045$, a capital output ratio of 3 produces a depreciation charge of 13.5% of output. In the final section, we detail the special cases of depreciation rates due to wars.

The next question is what investment rate to use. The investment rates from Mitchell are nominal investment rates. That is investment rates assuming that the price of capital is equal to the price of consumption for all countries. However Summers Heston provide PPP adjusted as well as nominal investment rates for countries. We ran the regression of PPP adjusted investment rates against nominal investment rates, log of real output per capita in 1985 dollars, and an interaction between nominal investment rates and log of real output per capita in 1985 dollars and a constant. However before we ran the regressions we calculated decade averages of PPP investment rates, nominal investment rates, log of real output per capita in 1985 dollars and the interaction of the average nominal investment rate and log of real output per capita in 1985 dollars. Column one of Table 1 produces these regression results. Column two of Table 1 provides a robustness check on the regressions by examining the results of a regression using all of the years of the data, instead of averaging them by decade, there are no differences. For the paper we used the results in column 1 to produce our PPP investment rates. The range of the variables are given in the following Table. The first half of Table 2 provides the mean, standard deviation, minimum and maximum for the Summers Heston 1950-2000 data. The second half of the table provides the same information for our Mitchell data. As can be seen, almost all of the values of the variables in the years prior to 1950 are completely contained in the range from 1950-2000. The notable exception is the negative investment rate in the Netherlands during the 1930s. However since this is not an initial year, it does not cause any problems in the calculations of real physical capital per worker, although obviously real capital per worker falls between 1930 and 1940! Hence our estimates of PPP investment rates are in fact projections and not extrapolations.

1.2   Schooling and Human Capital

In order to calculate enrollment rates in 1990, we used interpolated values of the share of the population between the ages of 5 and 17 using the *Dorling Kindersley World Reference Atlas* (1994), hereafter abbreviated as DK, or Keyfitz and Flieger *World Population Growth and Aging: Demographic Trends in the Late 20th Century* (1990), hereafter abbreviated as KF. These sources provide the age structure of the population for the age groups 0-14, 15-64 and 65 and older. Since the age groups do not completely match our group of interest, we assumed that populations were uniformly distributed across age groups. Thus we assume that two thirds of the 0-14 group were between the ages of 5 and 14, and that six percent of the

Table 1: Regressions of PPP investment rates on nominal investment rates

variable	decade average	yearly observations
nominal investment rate	1.6127	1.5749
	(0.1017)	(0.0344)
lny	0.0091	0.0093
	(0.0025)	(0.0009)
nominal investment rate * lny	-0.0838	-0.0800
	(0.0127)	(0.0043)
constant	-0.0687	-0.0697
	(0.0186)	(0.0065)
number of observations	610	5842
$\bar{R}^2$	.9065	.8989

Notes: Table reports our estimates of PPP investment PWT rates on nominal investment rates from Mitchell.

Table 2: Descriptive statistics of Summers & Heston (1950-2000) and Mitchell prior to 1950

	Summers & Heston 1950-2000				Mitchell prior to 1950			
variable	mean	std dev	min	max	mean	std dev	min	max
nominal investment rate	0.1656	0.0936	0.0121	0.5440	0.1200	0.0437	-0.008	0.3586
lny	7.852	1.025	5.658	10.134	7.364	0.644	5.623	8.755
nominal investment rate * lny	1.3532	0.8505	0.0735	4.733	0.8913	0.358	-0.0646	2.854

Notes: Table reports our descriptive statistics of Summers & Heston and Mitchell data ranges.

age group 15-64 were 15, 16 or 17. DK gives population shares of these groups for 1960, 1970, 1980, 1990 and 2000. However since we are interested in both primary school capital and secondary school capital, we need information on the relevant population at risk to each schooling level. For countries with primary school length of 8 years, we used $\frac{8}{15}$ of the 0-14 group as being between 6 and 13. If secondary school then ran 4 years, we used $\frac{1}{15}$ of the 0-14 age group and 6 percent of the age group 15-64 were 15, 16 or 17. To calculate the enrollment rates for higher education we used total enrollments in year t divided by the year t population between the ages of 18-24. To calculate the stock of human capital of each type, primary school stock, secondary school stock and higher education stock, we used a perpetual inventory method. We focused on males, but we typically used information on total enrollments, not enrollments of men, as this typically is not available in Mitchell. Although this induces a downward bias in the measure of male enrollments, we feel that the information is still valuable. We used the same method as in BDT (2006), which is a variant of TTMB (2007). The following example will illustrate the nature of our calculations. In period $t+1$, the stock of adults, $H_{t+1]^i}$, aged 25 and older, with exposure to education level $i, i =$none,

primary (but no more), secondary (but no more) and higher education (but no more) is given by:

$$H_{t+1}^i = H_t^i(1 - \delta_t^{hc}) + I_t^i \tag{8}$$

where δ_t^{hc} is the *death rate* and I_t^i is the flow of new adults with exposure to education level i and no more. We assumed that δ_t^{hc} does not vary by education class. It is useful to put the human capital measure as a fraction of the labor force. Thus we normalize and produce:

$$\frac{H_{t+1}^i}{L_{t+1}} = \frac{H_t^i}{L_t}\frac{L_t}{L_{t+1}}(1 - \delta_t^{hc}) + \frac{I_t^i}{L_{t+1}} \tag{9}$$

$$h_{t+1}^i = h_t^i \frac{L_t}{L_{t+1}}(1 - \delta_t^{hc}) + \frac{I_t^i}{L_{t+1}} \tag{10}$$

In order to proceed we need a measure of the death rate of adults. We constructed this for each country using the information provided below about the ages of schooling for primary and secondary education. We illustrate our calculations by presenting the case where primary school lasts from ages 6-13 and secondary school lasts from ages 14-17. Assume that the time gap between period t and t+1 is 10 years. Then we used the following equation:

$$L_{t+1} = L_t(1 - \delta_t^{hc}) + r_t^{hi}\ell\,[9 - 24]_t + (r_t^{sec} - r_t^{hi})\ell\,[8 - 17]_t + (r_t^{el} - r_t^{sec})\ell\,[0 - 13]_t + (1 - r_t^{el})\ell\,[0 - 13]_t \tag{11}$$

where r_t^{hi} is the higher education enrollment rate, r_t^{sec} is the secondary school enrollment rate, r_t^{el} is the primary school enrollment rate, and $\ell[i - j_t]$ is the number of males between the ages of i and j, inclusive in period t. Notice that this definition allows for the calculation of the common term in all equations, $\frac{L_t}{L_{t+1}}(1 - \delta_t^{hc})$ in terms of obsevables:

$$\frac{L_t}{L_{t+1}}(1 - \delta_t^{hc}) = 1 - r_t^{hi}\ell\,[9 - 24]_t - (r_t^{sec} - r_t^{hi})\ell\,[8 - 17]_t - (r_t^{el} - r_t^{sec})\ell\,[0 - 13]_t - (1 - r_t^{el})\ell\,[0 - 13]_t \tag{12}$$

To complete the analysis we use the information on enrollments for I_t^i. In this example, these are:

$$I_t^{hi} = r_t^{hi}\ell\,[9 - 24]_t \tag{13}$$

$$I_t^{sec} = (r_t^{sec} - r_t^{hi})\ell\,[8 - 17]_t \tag{14}$$

$$I_t^{el} = (r_t^{el} - r_t^{sec})\ell\,[0 - 13]_t \tag{15}$$

$$I_t^{none} = (1 - r_t^{el})\ell\,[0 - 13]_t \tag{16}$$

1.3   Initial Young Human Capital: 15 to 24 age group

In this section we characterize how the initial young human capital is chosen, for the model with intergenerational human capital accumulation. We report on fairly simple rules for computing the human capital of the youngest workers, those age 15 to 24. All other age categories of human capital in the initial year are simple fixed functions of the 15 to 24 human capital. These latter age categories are: 25 to 34, 35 to 44, 45 to 54 and 55 to 64. In Table 4 below we present two sets of results. The top panel presents the regressions of our initial human capital of 15 to 24 year olds against fixed rule variables. The bottom panel presents the variance decomposition results with the initial human capital coming from the fixed rule regressions.

First we define some variables. Let our assumed initial, year t, human capital for 15 to 24 year olds in country i be given by $h^i_{15-24,t}$. Construct the log relative human capital of 15 to 24 year olds in country i in year t relative to their 15 to 24 year old counterparts in the US be:

$$\ln r^i_{15-24,t} = \ln[h^i_{15-24,t}] - \ln[h^{US}_{15-24,t}]. \tag{17}$$

Compute the log of output per worker in country i in year t relative to output per worker in the US in year t as:

$$\ln r^i_{y_t} = \ln[y^i_t] - \ln[y^{US}_t]. \tag{18}$$

In both of these definitions we placed a country's initial observation year into its respective decade. For example if we observe a country for the first time in year 1876, we place the observation in the 1880 decade and normalize by using the US value for 1880. Let T be any decade year, a year ending in zero. Then a year t lies in decade T if $t \in [T-5, T+4]$.

We used Schoellman (2012) to construct quality adjusted human capital measures from schooling.[1] We form the relative 15 to 24 human capital from schooling as:

$$\ln \Gamma^i_t = .2[E^i_{15-24,t} - E^{US}_{15-24,t}]. \tag{19}$$

Define a dummy variable which takes on the value of 1 if the initial observation year is after 1945. We use a few country dummy variables listed in Table 3.

We also produced interactions of log relative output per worker with the dummy variable for initial observation after 1945 and regions, and interactions of log relative human capital from schooling with the dummy variable for initial observation after 1945 and regions. Finally we have interactions with some of the country or region variables in Table 3 with the log of relative human capital from schooling. We list the R^2 as well as the correlation of the predicted value with the initial condition in the top panel of Table 4. The correlation between the predicted initial condition for h_{15-24} and the one used in the paper is essentially $\frac{3}{4}$ or better, as high as .98.

The bottom panel of Table 4 contains the average BDT growth variance decomposition. For the world as a whole, even the most basic initial condition specification has variation in input growth rates capturing better than three-fifths of the growth variation. The final two specifications with all of the country-group dummies and interactions with group dummies produces results quite similar to those of the paper. Essentially four-fifths of growth rate variations in output per worker are captured by variations in input per worker growth variations.

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[1]These measures come from Schoellman (2012) and personal correspondence.

Table 3: Country or Region Dummy Variables

Variable	Country or Countries
icelux	Iceland & Luxembourg & Malta
canadanzuk	Canada & Netherlands & New Zealand & United Kingdom
japan	Japan
hksing	Hong Kong & Singapore & Taiwan
latviaestonia	Estonia & Latvia
stans	Kyrgyzstan & Tajikistan & Turkmenistan & Uzbekistan
ukrainegeorgia	Georgia & Kazakhstan & Romania & Ukraine
yugo	Albania & Armenia & Russia & Yugoslavia
bhutan	Bhutan
vietnamcamlaos	Cambodia & Laos & Vietnam
cuba	Cuba
jordanleb	Jordan & Lebanon
oman	Oman
eritrea	Eritrea & Ethiopia & Sudan
eafrica	Malawi & Mozambique & Tanzania
wafrica	Benin & Burkina Faso & Gabon & Ghana & Guinea & Guinea-Bissau & Mauritania & Mali
cveg	Cape Verde & Equitorial Guinea
rwandaburundi	Burundi & Rwanda & Uganda
lesothoswazi	Lesotho & Swaziland
soafrica	South Africa
latin1	Costa Rica & Guatemala & Panama & Trinidad
latin2	Belize & Bolivia & Dominican Republic & Haiti & Honduras & Nicaragua
oil	Azerbaijan & Kazakhstan & Angola & Gabon & Nigeria & Mexico & Venezuela & Bahrain & Iran Iraq & Kuwait & Oman & Qatar & Saudi Arabia & UAE & Yemen & Algeria & Libya

Table 4: Log Relative Initial Young Human Capital Regressions

Variable					
$\ln r_y$	0.4200	0.4512	0.2854	0.3583	0.4392
	(0.0613)	(0.0709)	(0.2071)	(0.1348)	(0.0829)
$\ln \Gamma$	0.1848	0.2412	0.1840	0.2406	0.2981
	(0.0891)	(0.1049)	(0.2210)	(0.1466)	(0.0907)
oil	-0.5064	-0.1182	-0.2268	-0.1003	-0.2885
	(0.1488)	(0.1743)	(0.1831)	(0.1251)	(0.779)
constant	-0.1061	-0.2460	-0.7158	-0.6252	-0.4459
	(0.0797)	(0.2460)	(0.3061)	(0.1992)	(0.1247)
region dummies	no	yes	yes	yes	yes
initial year >1945	no	yes	yes	yes	yes
initial year > 1945 X region dummies X $\ln r_y$	no	no	yes	yes	yes
initial year > 1945 X region dummies X $\ln \Gamma$	no	no	yes	yes	yes
icelux	no	no	yes	yes	yes
japan	no	no	yes	yes	yes
hksing	no	no	yes	yes	yes
rest of country dummies	no	no	no	yes	yes
$\ln \Gamma$ X canadanzuk	no	no	no	no	yes
$\ln \Gamma$ X eritrea	no	no	no	no	yes
$\ln \Gamma$ X cveg	no	no	no	no	yes
$\ln \Gamma$ X eafrica	no	no	no	no	yes
$\ln \Gamma$ X wafrica	no	no	no	no	yes
R^2	.5439	.6070	.6695	.8867	.9606
ρ	.7375	.7791	.8182	.9416	.9801
N	167	167	167	167	167

Region	$\overline{S}_{g_x}$	$\overline{S}_{g_x}$	$\overline{S}_{g_x}$	$\overline{S}_{g_x}$	$\overline{S}_{g_x}$
World	.616	.636	.653	.781	.816
WC	.737	.873	.983	.995	.992
SE	.740	.972	.986	.986	.986
CEE	.575	.566	.590	.672	.679
NIC	.438	.443	.927	.924	.921
Asia	.560	.569	.604	.952	.952
SSA	.567	.571	.567	.708	.821
LA	.581	.569	.633	.731	.733
ME	.561	.609	.597	.669	.654
ME not OPEC	.838	.949	.891	.516	.546
ME OPEC	.543	.563	.576	.596	.595
NA	.592	.589	.681	.674	.685

2 Western Countries

2.1 Australia (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1861, 1871, 1881, 1891, 1901, 1911, 1921, 1933, 1947, 1954, 1961, 1971, 1980, 1990 come from Maa Table A5 p. 64, 65 and 66. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1861, 1871, 1881, 1891, 1901, 1911, 1921, 1933, 1947, 1954, 1961, 1971, 1981 and 1990 come from Maa Table A2 p. 28. The age distribution for Australia in 1820, 1830, 1840, 1850 are assumed to be that of 1861. The age distribution for Australia for 1990 is interpolated from 1981 and 1992 values. The age distribution for Australia for 2000 comes from DK. We assumed the 2007 age distribution was identical to the 2000 age distribution.

Labor force figures for 1901, 1911, 1921, 1931, 1941, 1951, 1961, 1971, 1980 and 1990 come from Maa Table B1 p. 102. Labor force data for 1820, 1830, 1840, 1850, 1861, 1871, 1881, 1891 come from the average LF/population ratio for 1901, 1911, 1921 and 1931. Labor force data for Australia for 1980 and 1990 are interpolated from 1971, 1981 and 1991 data. Labor force data for 2000 come from WDR. Labor force data for 2007 come from WDI.

Real GNPs come from Maddison. We convert his estimate of output per capita by multiplying by population and dividing by out estimate of labor force. The 2007 value comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1861-1998 from Maa Table J1, pp. 1039, 1040 and 1041 and WDR (various years). For 1820, 1830, 1840, and 1850 we used the 1861 value. For 2007 we used the average investment rates from S & H online for 2000-2007.

We assumed 0 enrollments in higher education and secondary schooling in 1820 and 1830. We used an estimate of 25 percent enrollment in primary school based on Steckel and Floud (1997) literacy estimate in 1820 and 1830 Australia. Enrollments in school from 1840-1991, come from Maa Table I1 pp. 992 and 993. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. However since primary and secondary school enrollments are not reported separately until 1970, we used the following apportionment: 85 percent of students were in primary school in 1861, 1871. Eighty percent of students in 1881 were primary students. Seventy-five percent of students in 1891, 1901, 1911, 1921 were primary students. Seventy percent of students in 1931 were primary students. Two thirds of students in 1947, 1954 were primary students. Fifty-five percent of students in 1961 were primary students. Higher education enrollments for 1906-1998 from Maa Table I2 p. 1006. For 2007 we used WDI. For years prior 1820 to 1901 we used enrollment rates of 0, 0, 0, 0, .0001, .001, .001, .001, .002.

2.2 Austria (1820-2007)

Population figures are for the Austrian Provinces of the Hapsburg Empire, 1820, 1830, 1842, 1850, 1860, 1869, 1880, 1890, 1900 and 1910, from Meu Table A2 p. 13. Populations for Republic of Austria 1923, 1934, 1951, 1961, 1971, 1981, 1991 come from Meu Table A2 p. 13. Population for Austria 2000 comes from *Time Almanac 2001*. Population for Austria 2007 comes from textitTime Almanac 2008.

The age distributions of the population for 1869, 1880, 1890, 1900, 1910, 1923, 1934, 1951, 1961, 1971, 1981, 1991 come from M (1980) Table A2 p. 13. We assumed the same age distribution in 1820, 1830,

1842, 1850, 1860 as in 1869. Age distribution for Austria 2000 comes from DK (1994). We assumed the same age distribution for 2007 as in 2000.

Labor force figures for 1880, 1890, 1900, 1910, 1920, 1934, 1939, 1951, 1961, 1971, 1981, 1991 are from Meu Table B1 p. 145. For 1820, 1830, 1842, 1850, 1860, 1869 we used the same LF/population ratio as in 1880. Labor force data for 2000 come WDR. Labor force data for 2007 come from WDI.

Real GNPs come from Maddison, except for 2007 which comes from WDR. Physical capital investment rates from 1820-1913 is .12, averaged from the 1913 and 1923-1933 periods. Physical capital investment rates comes from intraperiod averages of real gross capital formation and real income for 1913-1998 from Meu Table J1 pp. 908, 914 922. For 2007 we used the average investment rate from 2000-2006 from S & H.

For 1830 we used Lindert for primary school enrollments; .01 of these enrollments for secondary enrollments and assumed a .35 percent enrollment rate in higher education. We assumed identical enrollment rates in 1820 as from 1830. Enrollments in primary and secondary school from 1842-1998 come from Meu Table I1 pp. 870, 873, 880 887. To calculate enrollment rates prior to 1971, we assumed 6-11 are primary school age and 12-17 are secondary school age. In 1971 we assumed that primary school lasts 8 years and secondary school lasts 4 years. Therefore 6-13 are primary school age and 14-17 are secondary school age. This switch occurred to fit with the enrollment rate data in WDR for 1980, 1990. Values for 2007 came from WDI. Higher education enrollments are from Meu Table I2 pp. 894, 895, 897, and 899.

2.3   Belgium (1820-2007)

Populations for 1820, 1830, 1840 1846, 1856, 1866, 1880, 1890, 1900, 1910, 1920, 1930, 1947, 1961, 1970, 1981, 1991 come from Meu Table A2 p. 14. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1846, 1856, 1866, 1880, 1890, 1900, 1910, 1920, 1930, 1947, 1961, 1970, 1981, 1991 come from Meu Table A2 p. 14. The age distribution for 1820, 1830 and 1840 are assumed to be identical to the age distribution in 1846. Age distribution for Belgium 2000 comes from DK (1994). We used the 2000 age distribution for 2007.

We assumed the 1820, 1830 and 1840 labor force data to be the coming from the same ratio of LF/population as in 1846. Labor force figures for 1846, 1856, 1866, 1880, 1890, 1900, 1910, 1920, 1930, 1947, 1961, 1970, 1981 and 1990 are from Meu Table B1 p. 146. Labor force data for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real GNP come from Maddison, except for 2007 which comes from WDR. Physical capital investment rates come from the intraperiod averages of real gross capital formation and real income for 1920-1998 from Meu Table J1 pp. 908, 914 922. Investment rate for 2007 is the average investment rate from 2000-2006 from S & H. Physical capital investment rate for 1820-1920 is the average for investment rates of Germany and the United Kingdom over the comparable periods.

Enrollments in primary and secondary school from 1830-1993 come from Meu Table I1 pp. 870, 873, 880 887. We used the 1830 enrollment rates for 1820. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments are from Meu Table I2 pp. 894, 895, 897 and 899. The 2000 and 2007 values from WDR.

2.4 Canada (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1871, 1881, 1891, 1901, 1911, 1921, 1931, 1941, 1951, 1961, 1971, 1981 and 1991 come from Mam Table A2 p. 11. Population for 2000 comes from Time Almanac 2001. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1850, 1860, 1871, 1881, 1891, 1901, 1911, 1921, 1931, 1941, 1951, 1961, 1971, 1981 and 1991 come from Meu Table A2 p. 11. We used the age distribution in 1850 for 1820, 1830 and 1840. The age distribution for Canada for 2000 comes from DK (1994). We assumed the 2007 age distribution was the same as in 2000.

Labor force data for 1820, 1830, 1840, 1850, 1860, 1871 and 1881 assume the same LF/population ratio as in 1891. Labor force figures for 1891, 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1981 and 1991 come from Mam Table B1 p. 102. Labor force data for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real GNP for 1820, 1830, 1840, 1850, 1860, 1871, 1881, 1891, 1901, 1911, 1921, 1931, 1941, 1951, 1961, 1971 come from Maddison. The 2007 value comes WDR. Physical capital investment rates come from the gross real capital formation and real income for 1870, 1890, 1900, 1910 and 1920 come from Mam Table J1, pp. 762, 763. We used a physical capital investment rate of .165 for 1820, 1830, 1840, 1850, 1860. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1926-1998 from Mam Table J1, pp. 763 and 767 and WDR (various years). For 2007 we used the average over the 2000-2007 period from S & H.

Enrollments for 1850 come from literacy rates, from Morris and Adelman (1988), of 65 percent (we assumed a 75 percent enrollment rate), and for 1860 the arithmetic average of 1850 and 1871 enrollment rates from Mitchell. We assumed a 1 percent secondary enrollment rate for 1850 and 1860 and .2 percent enrollment rates for higher education in these years. For 1840 we assumed enrollment rates half those of 1850. For 1830 we assumed enrollment rates one quarter of those in 1850. For 1820 we assumed enrollment rates one eighth of those in 1850. Enrollments in school from 1868-1993 come from Mam Table I1 pp. 718, 721, 725 and 730. Since school enrollments are not broken down into primary and secondary categories, we tried to fit the enrollment rates to those from the WDR, mainly 1961 and 1971. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. We assumed 75 percent of total enrollments were in primary school in 1871, 1881, 1891, 1901. We assumed 70 percent of total enrollments were in primary school in 1911, 1921. We assumed that 67 percent of total enrollments were in primary school in 1931, 1941, 1951. Higher education enrollment rates are for 1920-1998 from Mam Table I2 pp. 751, 752 and 754. For prior years, 1871-1911 we used .002, .005, .005, .01 and .01. For 2007 we used data from WDI.

2.5 Denmark (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1901, 1911, 1921, 1930, 1940, 1950, 1960, 1970, 1981 and 1990 come from Meu Table A2 p.17. Population for 2000 comes from Time Almanac 2001. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1840, 1850, 1860, 1870, 1880, 1890, 1901, 1911, 1921, 1930, 1940, 1950, 1960, 1970, 1981 and 1990 come from Meu Table A2 p. 17. We assumed the 1820 and 1830 age distributions were identical to the 1840 age distribution. Age distribution for Denmark for 2000 comes

from DK (1994). We assumed that the 2007 age distribution was the same as the 2000 age distribution.

Labor force figures for 1860, 1870, 1880, 1890, 1901, 1911, 1921, 1930, 1940, 1950, 1960,1970, 1981 and 1991 come from Meu Table B1 p. 147. For 1820, 1830, 1840, 1850 we assumed the same Labor Force/Population ratio as in 1860. Labor force data for 2000 come from WDR, and the labor force data for 2007 comes from WDI.

Real GNP from 1820-1970 comes from Maddsion. Real GNP for 2007 comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1850-1998 from Meu Table J1, pp. 906, 909, 915 and 922 and WDR (various years). The 1820, 1830 and 1840 investment rates are assumed to be the same as the 1850 value. The 2007 value is the average investment rate over 2000-2006 from S & H.

We assumed a 70 percent enrollment rate in primary school in 1820 and 1830, taken from an estimate of 73 percent literacy for Germany in 1830 via Steckel and Floud. We kept this value for 1840, 1850, 1860 and 1870 so as to fit the 76 percent enrollment rate in 1880 from Lindert. These rates are lower than the estimated literacy rates of 95 percent in 1850 from Morris and Adelman, and 95 percent from Morris Adelman in 1870, and 81 percent from Crafts. For 1820-1840 we used .5 percent for secondary enrollment rates. For 1850-1870 we used the average period enrollment rates for Belgium, France and the Netherlands in corresponding years. Enrollments in primary and secondary school from 1893-1993 come from Meu Table I1 pp. 874, 881 and 887. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments from 1893-1993 come from Meu Table I2 pp. 895 and 897. We used .05 percent for 1850-1880 and .01 percent for 1820-1840. For 2000 and 2007 we used WDR and WDR, respectively.

2.6 Finland (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1865, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 18. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1850, 1865, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 18. We assumed the age distributions for 1820, 1830 and 1840 were identical to the age distribution in 1850. Age distribution for Finland for 2000 comes from DK (1994). We assumed the same age distribution for 2007.

Labor force figures for 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980, 1990 come from Meu Table B1 p. 148. Labor force data for 1820, 1830, 1940, 1850 and 1865 are calculated from the 1880 labor force participation data. Labor force data for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1865-1998 from Meu Table J1, pp. 906, 909, 915 and 922 and WDR (various years). The 2007 value was the average investment rate from 2000-2006 from S & H. Physical capital investment rate for 1820-1850 is .12.

Enrollments in primary and secondary school from 1875-1993 come from Meu Table I1 pp. 874, 881 and 887. For 1820, 1830, 1840, 1850 and 1865 we used .75 percent, 2.5 percent, 3 percent, 4 percent and 5 percent for enrollment rates in primary school and .25 percent 1 percent 1 percent, 1 percent and 1.8 percent for enrollment rates in secondary school. For 1820-1830 we used .2 percent for higher education

enrollment rates. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments from 1840-1993 are from Meu Table I2 pp. 894, 895, 897 and 899. We used WDR for 2000 enrollment rates and WDI for 2007 enrollment rates.

France (1800-2007) Populations for 1800, 1810, 1820, 1830, 1840, 1850, 1861, 1872, 1881, 1891, 1901, 1911, 1921, 1931, 1946, 1954, 1962, 1968, 1975, 1980 and 1991 come from Meu Table A2, pp. 19 and 20. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1850, 1861, 1872, 1881, 1891, 1901, 1911, 1921, 1931, 1946, 1954, 1962, 1968, 1975, 1980 and 1991 come from Meu Table A2, pp. 19, 20 and 21. The age distribution for 1800, 1810, 1820, 1830, 1840 are assumed to be identical with the age distribution from 1850. Age distribution for France for 2000 comes from DK (1994). We assume the age distribution in 2007 is the same as in 2000.

Labor force data for 1850, 1861, 1872, 1881 and 1891 come from interpolations of data for 1856, 1866, 1886, 1896 from Meu Table B1, p. 149. The 1800, 1810, 1820, 1830 1840 and 1850 figures come from extrapolation using the 1861 labor force participation rate. Labor force figures for 1901, 1911, 1921, 1931, 1946, 1954, 1962, 1968, 1975, 1981 and 1991 come from Meu Table B1 p. 149. The 1981 value comes from interpolations using the 1975, 1982 values.) Labor force data for 2000 come from WDR. The 2007 labor force comes from WDI.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1850-1949 are the average physical capital investment rates for Germany and the UK over the same periods. Investment rates for 1800, 1810, 1820, 1830 and 1840 are the 1850 value. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1949-1998 from Meu Table J1, pp.915 922 and WDR (various years). The 2007 investment rate is the average rate over the 2000-2006 period from S & H.

The 1800 enrollment rate for primary school comes from literacy rates from Steckel and Floud. We assumed a .5 percent enrollment rate for secondary school, and a .05 percent enrollment rate for higher education. The 1830 and 1840 enrollment rates for primary school and secondary school come from Lindert. The 1810 and 1820 enrollment rates are interpolated from the 1800 and 1830 rates. Enrollments in primary and secondary school from 1850-1998 come from Meu Table I1, pp. 870, 874, 882 and 888. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1889-1993 are from Meu Table I2, pp. 895 897 and 899. We used .0002, .0002, .0003 and .0003 for higher education enrollment rates over the 1850-1881 period. The 2007 enrollment rates come from WDI.

2.7 Germany (1800-2007)

Populations for 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1925, 1933 and 1939 come from Meu Table A1, p. 4. Populations for West Germany 1950, 1961, 1970 and 1980 come from Meu Table A1, p. 4. Population for West Germany in 1990 comes from S & H online. Population for Germany 2000 comes from *Time Almanac 2001*. Population for Germany 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1871, 1880, 1890, 1900, 1910, 1925, 1933 and 1939 come from Meu Table A2 pp. 21 and 22. The age distributions for years prior to 1871 are assumed to be identical to the age distibution in 1871. The age distributions for West Germany 1950, 1961, 1970 and 1980 come from Meu Table A2 p. 22. Age distribution for West Germany for 1990 and Germany in 2000 comes from

DK (1994). The 2007 age distribution is assumed to be identical to its 2000 distribution.

Labor force figures for years prior to 1880 are extrapolated from the labor force participation rate in 1882, LF/population. Labor force figures for 1882, 1895, 1907, 1925, 1933, 1939 come from Meu Table B1 p. 150. West German labor force data for 1946, 1950, 1961, 1970 and 1980 and 1990 are from Meu Table B1 p. 150. Labor force data for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real GNP data for years prior to 2007 come from Maddison. The 2007 value comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1850-1993 from M (1980) Table J1, pp. 906, 910, 916 and 923 and WDR (various years). For years prior to 1860 we assumed a .15 percent investment rate. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollment rates in 1850-1880 are from Easterlins enrollment data. The 1890 value is an interpolation of the 1880 data with the 1900 data. The 1830 and 1840 primary enrollment data are from Lindert. The 1800, 1810 and 1820 data are based on Steckel and Floud literacy rates for 1800, and 1830 Lindert data, and interpolations between these base years. Enrollments in primary, 1900-1993, and secondary school, 1910-1993, come from Meu Table I1, pp. 875, 882, and 888. Secondary enrollment rates from 1830-1910 are from Lindert. We assumed a 1 percent enrollment rate in years prior to 1830. For higher education prior to 1870, we assumed enrollment rates to be the average of higher education enrollment rates in France and England. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1872-1998 comes from Meu Table I2, pp. 895, 897 and 899. Enrollment rates for 2007 come from WDI.

2.8   Iceland (1950-2007)

Population for 1950, 1960, 1970, 1980, 1990 come from S & H. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1960, 1970, 1980, 1990 come from KF. The age distribution for 2000 and 2007 was assumed to be the same as the age distribution in 1990.

Labor force for 1950, 1960 and 1970 come from WDI. Labor force for 2000 comes from internet government website. The labor force for 2007 comes from WDI.

Real GNP for 1950, 1960 and 1970 come from Penn World Tables 6.1. The 2007 comes from the World Bank rebenchmarking project, The 1980, 1990 and 2000 values come from the growth rates in WDI and the 2006 base. The 2000 value is 109 percent of PWT 6.1, The 1990 value is 100 percent of PWT 6.1. The 1980 value is 101 percent of PWT 6.1. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1950-2000 PWT 6.1. For 1950 we used the 1960 average investment rate. The 2007 value is the average investment rate for 2000-2006 in S & H.

Primary school, secondary school and higher education enrollments from 1950-1980 come from internet government site. For 1990 we used WDI. For 2000 we used WDR. For 2007 we used UIS Global Database. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-18 are secondary school age.

2.9   Ireland (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1926, 1936, 1951, 1961, 1971, 1981 and 1991 come from Meu Table A2 p. 27. Population for 2000 comes from *Time Almanac 2001*.

Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1860, 1870, 1880, 1890, 1900, 1910, 1926, 1936, 1951, 1961, 1971, 1981 and 1991 come from Meu Table A2 p. 27. We assumed the 1820-1850 age distribution was the same as the 1860 age distribution. The age distribution for Ireland for 2000 comes from KF. The age distribution for 2007 was assumed to be the same as the age distribution in 2000.

Labor force figures for 1870, 1880, 1890, 1900, 1910, 1926, 1936, 1951, 1961, 1971, 1981 and 1991 come from Meu Table B1 p. 152. Labor force data for 1820, 1830, 1840, 1850 and 1860 are extrapolated using the same LF/population ratio as in 1870. Labor force data for 2000 come from WDR. The labor force for 2007 comes from WDI.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1947-2000 from Meu Table J1, pp. 917 and 924 and WDR (various years). For all years prior to 1950 we used the value of .08. The 2007 value is the average investment rate for 2000-2006 in S & H.

Primary school enrollments from 1850-1910 come from Lindert. Secondary school enrollments from 1870-1910 come from Lindert. We assumed higher education enrollment rates of .01 percent for 1850, 1860, 1870, .02 percent for 1880, .1 percent for 1890. For years prior to 1850, we assumed that each decade's enrollment rates, primary, secondary and higher educaiton, were .75 times the future rate. We assumed 1.5 and 1.9 percent enrollment rates for secondary schools in 1850 and 1860 respectively. Enrollments in primary and secondary school for 1920-1993 come from Meu Table I1 p. 883 and 888. To calculate enrollment rates prior to 1971, we assumed 6-11 are primary school age and 12-17 are secondary school age. In 1971 we switched to 6-13 primary and 14-17 secondary in order to match enrollment rate data from 1980 and beyond. Higher education enrollments for 1920-1998 come from Meu Table I2 pp. 898 and 899. The 2007 values come from WDI.

2.10   Luxembourg (1950-2007)

Population for 1950, 1960, 1970, 1980, 1990 come from S & H. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1960, 1970, 1980, 1990 come from KF. The age distribution for 2000 and 2007 was assumed to be the same as the age distribution in 1990.

Labor force for 1950, 1960, 1970, 1980, 1990, 2000 and 2007come from WDI. For 1950 we assumed the same labor force participation rate, LF/population, as in 1960.

Real GNP for 1950, 1960 and 1970 come from Penn World Tables 6.1. The 2007 value comes from the World Bank rebenchmarking project, The 1980, 1990 and 2000 values come from the growth rates in WDI and the 2006 base. The 2000 value is 112 percent of PWT 6.1, The 1990 value is 133 percent of PWT 6.1. The 1980 value is 130 percent of PWT 6.1. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1950-2000 PWT 6.1. For 1950 we used an investment rate of .15. The 2007 value is the average investment rate for 2000-2006 in S & H.

For 1950 and 1960 enrollment rates, we used the average of Belgium, France and Germany. For 1970 we used WDI. Primary school, secondary school and higher education enrollments from 1980 and 1990 come from internet government site, http://statec.gouvernment.lu/html$_e n/statistiques/luxembourg_e n_c hif f res/index.html For 20$ $11 are primary school age and 12-18 are secondary schoolage.$

2.11 Netherlands (1800-2007)

Populations for 1800, 1810, 1820, 1830, 1840, 1849, 1859, 1869, 1879, 1889, 1899, 1909, 1920, 1930, 1940 1947, 1960, 1970, 1980 and 1991 come from Meu Table A2 pp. 29 and 30. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1840, 1849, 1859, 1869, 1879, 1889, 1899, 1909, 1920, 1930, 1940 1947, 1960, 1970, 1980 and 1990 come from Meu Table A2 pp. 29 and 30. The age distributions for 1800-1830 are assumed to be the same as the age distribution in 1840. The age distribution for the Netherlands for 2000 comes from DK (1994). The age distribution in 2007 is assumed to be the same as in 2000.

Labor force figures for 1849, 1859, 1869, 1879, 1889, 1899, 1909, 1920, 1930, 1947, 1960, 1971, 1981 and 1991 come from Meu Table B1 p. 154. Labor force data for 1800-1840 assumes the same LF/population ratio as in 1849. Labor force data for 2000 come from WDR. The labor force for 2007 comes from WDI.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross capital formation and gross income for 1921-1939, 1948-9 from Meu Table J1 p. 911. For the 1950-1998 period we used the intraperiod averages of real gross capital formation and real income from Meu Table J1 pp. 914 and 918 and WDR (various years). For the 1849-1920 period we used the average of the physical capital investment rates in Denmark and Germany over the same periods. For years prior to 1859 we assumed an investment rate of .165. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollment rates for primary schooling 1800 are set at 67 percent, to reflect an estimate of 75 percent literacy in 1800 as estimated by Steckel and Floud. The same source claims a 75 percent literacy in 1830. We interpolated the 1810 and 1820 values using the 67 percent and 75 percent values in 1800 and 1830, respectively. We assumed a .2 percent enrollment rate in secondary school in 1800. Our 1840 value from Meu is .4 percent. We interpolated our 1810 and 1820 values from these boundary conditions. Enrollments in primary and secondary school from 1850-1998 come from Meu Table I1 pp. 871, 876, 883 and 889. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1849-1993 are from Meu Table I2 pp. 894, 896, 898 and 899. We assumed .1 percent enrollment rates for higher education in 1800 and 1810. We assumed .2 percent enrollment rates for higher education in 1820 and 1830. Our 2007 values comes from WDI.

2.12 New Zealand (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1874, 1878, 1881, 1886, 1891, 1896, 1901, 1906, 1911, 1921, 1926, 1936, 1945, 1951, 1961 and 1971 come from Maa Table A2 p. 30. The 1980 and 1990 are from Maa Table A5 p. 66. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1874, 1878, 1881, 1886, 1891, 1896, 1901, 1906, 1911, 1921, 1926, 1936, 1945, 1951, 1961, 1971, 1980 and 1990 come from Maa Table A2 p. 30. The age distribution for 1820, 1830, 1840, 1850 and 1860 are assumed to be the same as in 1874. The age distribution for New Zealand for 1980 and 1990 are interpolated from 1971, 1981 and 1991 values. The age distribution for 2000 comes from DK. The age distribution for 2007 is assumed to be the same as in 2000.

Labor force figures for 1896, 1901, 1906, 1911, 1921, 1926, 1936, 1945, 1951 is interpolated from 1945

and 1956, 1961, 1971, 1980 and 1990 come from Maa Table B1 p. 103. Labor force for 1820-1891 are assumed to be from the same LF/population ratio as in 1896. Labor force data for New Zealand for 1980 and 1990 are interpolated from 1971, 1981, 1986 and 1991 values. Labor force data for 2000 come from WDR. Labor force data for 2007 are from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1939-1978 come from Maa Table J1, pp. 1040 and 1042; intraperiod average gross real capital formation and real income for 1979-1998 come from Maa Table J1 p. 1042 and WDR (various years). We used .12 for years prior to 1850-1926. We used .08 for years 1820-1840. The 2007 value is the average of investment rates from 2000-2006 from S & H.

We used the estimates of literacy of Morris and Adelman for 1850 and 1870 to estimate primary school enrollment rates in 1850 and 1860. Morris and Adelman estimate 35 percent literacy in 1850 and 75 percent literacy in 1870. We used primary school enrollment rates of 12.5 percent, 12.5 percent, 25 percent, 50 percent and 75 percent for 1820, 1830, 1840, 1850 and 1860, respectively. We assumed 1 percent enrollment rates in secondary school for 1820, 1830, 1840, 1850, 1860 and 1874. We assumed .2 percent enrollment rates for higher education in 1820, 1830, 1840, 1850 and 1860. Enrollments in school from 1878-1993 come from Maa Table I1 pp. 992 and 993. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-18 are secondary school age. Higher education enrollments for 1878-1998 come from Maa Table I2 p. 1006. We used WDI for enrollment rates in 2007.

Norway (1820-2007) Populations for 1820, 1830, 1840, 1850, 1865, 1875, 1890, 1900, 1910, 1920, 1930, 1946, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 31. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1850, 1865, 1875, 1890, 1900, 1910, 1920, 1930, 1946, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 31. We assumed the age distribution for 1820, 1830 and 1840 were the same as in 1850. The age distribution for Norway for 2000 comes from DK. The age distribution in 2007 is assumed to be the same as in 2000.

Labor force figures for 1875, 1891, 1900, 1910, 1920, 1930, 1946, 1960, 1970, 1980 and 1990 come from Meu Table B1 p. 154. The 1820, 1830, 1840, 1850 and 1865 labor force data are extrapolations using the 1875 labor force participation rate. Labor force data for 2000 come from WDR. The labor force for 2007 comes from WDI.

Real GNP comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1820, 1830, 1840 and 1850 are .08. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1865-1939, 1946-1998 from Meu Table J1, pp. 907, 912, 918 and 924 and WDR (various years). The 2006 value is the average investment rate from 2000-2006 from S & H.

1830 and 1840 enrollments for primary school come from Lindert. For 1820 we assumed an enrollment rate of 80 percent. Enrollments in primary and secondary school from 1853-1993 come from Meu Table I1 pp. 872, 877, 884 and 889. For 1890 LIndert provides secondary school enrollments. For years prior to 1830-1880 we extrapolated by assuming a 50 percent growth rate per decade in secondary school enrollments. For 1820 we assumed a secondary enrollment rate of .1 percent. From 1875-1993 to calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1850-1998 are from Meu Table I2, pp. 894, 896, 898 and 899. For 1820-1840 we assumed a

higher education enrollment rate of .1 percent. For 2007 we used the WDI.

2.13 Sweden (1800-2007)

Populations for 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940 1950 1960, 1970, 1980 and 1990 come from Meu Table A2 pp. 37-39. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940 1950 1960, 1970, 1980 and 1990 come from Meu Table A2 pp. 37-39. The age distribution for Sweden for 2000 comes from DK (1994). We assumed the 2007 age distribution is the same as in 2000.

Labor force figures for 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1945, 1950, 1960, 1970, 1980 and 1990 come from Meu Table B1 p. 158. We assume the same LF/population ratio in 1860 holds for 1800, 1810, 1820, 1830, 1840 and 1850. Labor force data for 2000 come from WDR. Our 2007 labor force comes from WDI.

Real GNP comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1871-1998 from Meu Table J1, pp. 907, 913, 920 and 926 and WDR (various years). For years prior to 1880 we used .13. For 2007 we used the average investment rate of 2000-2006 from S & H.

Enrollments in primary, 1850, 1865, 1870, 1890, 1900-1993 and secondary school, 1888-1998 come from Meu Table I1 pp. 872, 878, 885 and 889. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. For the 1850 primary school enrollment rate we used 85 percent, and the secondary enrollment rates for 1850 we assumed a 1 percent rate. For 1860, 1870 and 1880 we used 1 percent, 2 percent and 2 percent, respectively. For 1800-1820 we used a primary enrollment rate of 80 percent, as a result of Steckel and Flouds estimates of 83 percent literacy in 1800, and 86 percent literacy in 1830. We assumed a 1 percent secondary enrollment rate for these years. From 1800-1830 we assumed higher education enrollment rates of .05 percent. Higher education enrollments are from 1830, 1910-1993 from Meu Table I2 pp. 894, 896, 898 and 899. For 2007 we used WDI.

2.14 Switzerland (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1888, 1900, 1910, 1920, 1930, 1941, 1950, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 40. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1820, 1830, 1840, 1850, 1860 are assumed to be the same as 1870. The age distributions of the population for 1870, 1888, 1900, 1910, 1920, 1930, 1941, 1950, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 40. The age distribution for Switzerland for 2000 comes from DK (1994). The age distribution for 2007 is assumed to be the same as 2000.

We assume the same LF/population ratio in 1820, 1830, 1840, 1850, 1860, 1870 as in 1888. Labor force figures for 1888, 1900, 1910, 1920, 1930, 1941, 1950, 1960, 1970, 1980 and 1990 come from Meu Table B1 p. 159. Labor force data for 2000 come from WDR. The labor force for 2007 comes from WDI.

Real GNPs are from Maddison, except 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1950-1998 from Meu

Table J1, pp. 920 and 926 and WDR (various years). We used the average physical capital investment rates for France and Germany over the overlapping periods for 1900-1950. We used .13 for all years prior to 1900 period. For 2007 we used the average investment rates for 2000-2006 from S & H.

Primary enrollment rates for 1830, 1840, 1850, 1860 come from Lindert. Secondary enrollment rates for 1830, 1840, 1850, 1860, 1870, 1888 come from Lindert. For 1820 we used half the enrollment rates for 1830. Enrollments in primary and secondary school from 1870-1961 come from Meu Table I1 pp. 879, 885. To calculate enrollment rates, we assumed 6-12 are primary school age and 13-18 are secondary school age. We used the WDR of various years for the enrollment rates in 1970, 1980 and 1990. Higher education enrollments for 1886-1998 are from Meu Table I2 pp. 896, 898 and 899. For 2007 we used WDI.

2.15 United Kingdom (1801-2007)

Populations for England, Scotland, Wales and Ireland for 1801, 1811, 1821, 1831, 1841, 1851, 1861, 1871, 1881, 1891, 1901, 1911, 1921, and England, Scotland, Northern Ireland and Wales for 1931, 1951, 1961, 1971, 1981 and 1991 come from Meu Table A1 p. 8. Population for UK for 2000 comes from *Time Almanac 2001*. Population for UK for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for England and Wales for 1831, 1841, 1851, 1861, 1871, 1881, 1891, 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1981 and 1991 come from Meu Table A2 pp. 41 and 42. The age distribution for 1801, 1811, 1821 and 1831 are assumed to be the same as in 1841. The age distribution in 2000 comes from DK. The age distribution for 2007 is assumed to be the same as in 2000.

Labor force figures for 1841, 1851, 1861, 1871, 1881, 1891, 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1981 and 1991 come from Meu Table B1 p. 160. Labor force data for 1801, 1811, 1821, 1831 extrapolated from labor force participation rate in 1841. Labor force data for 2000 come from WDR. Labor force in 2007 is from WDI.

GDP are from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1830-1998 from Meu Table J1, pp. 905, 907, 913, and 926 and WDR (various years). The 1801, 1811 and 1821 values are assumed to be .165. The 2007 value comes from the average of 2000-2006 from S & H.

The primary school enrollment rate for 1821 comes from Lindert. The 1891 and 1901 secondary school enrollment rates come from Lindert. The 1800 and 1810 primary school enrollment rates come from Lindert and comparable to the literacy rates from Steckel and Floud. Enrollments in primary, 1850-1993, and secondary school from 1904-1993 come from Meu Table I1 pp. 872, 879, 886 and 890. Secondary school enrollment rates from 1821-1881 are interpolated from our assumed .5 percent rate in 1801 and 1811, and Linderts value for 1891 of .91 percent. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. For secondary enrollment rates prior to 1911 we used .0006, .0011, .01, .01, .01, .015, .02 and .02. For primary enrollment rates in 1831 and 1841 we used .05 and .09. Higher education enrollments for 1922-1998 are from Meu Table I2 pp. 898 and 899. Prior to 1922 we used enrollment rates of 0, 0, .005, .005, .02, .001, .001, .002, .002, .002, .002. For 2006 we use WDI.

2.16 United States (1790-2007)

Populations for 1790, 1800, 1810, 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A1 p. 6. Population for 2000 comes from

Time Almanac 2001. Population for 2007 comes from *Time Almanac 2008.*

The age distributions of the population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 comes from Mam Table A2 pp. 21-23. We assumed the age distribution for 1790, 1800 and 1810 were the same as in 1820. The age distribution for 2000 comes from *The Statistical Abstract of the United States 2000.* The age distribution for 2007 is assumed to be the same as in 2000.

Labor force figures for 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table B1 p. 107. The labor force for 1820, 1830, 1840, 1850, 1860 comes from *Historical Statistics of the United States, Millennial Edition.* We assumed the same LF/population ratio for 1790, 1800 and 1810. The labor force for 2000 comes from the *Statistical Abstract of the United States 2007.* The labor force for 2007 comes from the *Statistical Abstract of the United States 2008.*

Real GDP comes from Maddison from 1800-2000. The 1790 value comes from *Historical Statistics of the United States, Millennial Edition.* The 2007 WDR. Physical capital investment rates from 1870-1928 come from Barro and Sala-i-Martin. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1929-1998 from Mam Table J1, pp. 766 and 774 and WDR (various years). For years prior to 1940 we assumed a constant .165 investment rate. For 2007 we used the average investment rate of 2000-2006 from S & H.

Enrollment rates from 1840-1870 we use Turner, Tamura, Mulholland and Baier (2007). For 1830 we used Easterlin. For years prior to 1830 we assumed primary enrollment rates of 10, 20, 30, and 40 percent for primary school for 1790, 1800, 1810 and 1820, respectively. For secondary school enrollment rates we assumed 1 percent for all years before 1840. For higher education we assumed .1 percent for 1790-1820 and .2 percent for 1830. Enrollments in primary and secondary school from 1871-1993 come from Mam Table I1 pp. 718, 720, 724, 729 and 734. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. For 2007 we used WDI.

3 Southern Europe

3.1 Cyprus (1950-2007

Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001.* Population for 2007 comes from *Time Almanac 2008.*

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. The age distribution for 2007 is assumed to be the same as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980 and 2000 come from WDR (various years). The labor force for 1950 comes from the labor force participation rate in 1960. Labor force for 2007 comes from WDI.

Real GNPs for 1950, 1960, 1970, 1980 and 1990 come from S & H online. The 2000 value comes from WDR. The 2007 value comes from WDR. For 1950 we used an investment rate of .06. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years).

Enrollments in primary and secondary schools for 1960-2000 come from Maa Table I1 p. 986. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments

are from Maa Table I2 p. 1003. For 2007 we used enrollment rates from WDI.

3.2   Greece (1820-2006)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1928, 1950, 1961, 1971, 1981 and 1991 come from Meu Table A2 pp. 24 and 25. The 1910 value is an interpolation from the 1907 and 1920 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1870, 1880, 1890, 1900, 1910, 1920, 1928, 1950 1961, 1971, 1981 and 1991 come from Meu Table A2 pp. 24 and 25. The age distribution for 1910 is an interpolation from the 1907 and 1920 values. The age distribution prior to 1870 assumes the same age distribution as in 1870. The age distribution for Greece for 2000 comes from DK. We assumed the age distribution in 2007 was the same as in 2000.

The labor force figures for 1820, 1830, 1840, 1950, 1860, 1870, 1880, 1890, 1900, and 1910 come from extrapolating the 1928 value on labor force participation rate. Labor force figures for 1920, 1928, 1951, 1961, 1971, 1981, 1990 come from Meu Table B1 p. 151. Labor force data for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real GNP are from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1949-1998 from Meu Table J1, pp. 916 and 923 and WDR (various years). For 2007 we used the average investment rates from 2000-2006 from S & H. We used physical capital investment rates from 1910-1928 from Italy over the same periods. For years prior to 1910 we used 6 percent.

Enrollments in primary, 1901, 1910, 1926-1937, 1951-1993, and secondary school, 1926-1935, 1951-1993, come from Meu Table I1 pp. 875, 882 and 888. For 1870, 1880, 1890 we used Lindert for primary school enrollment rates. For years prior to 1870 we used one half the Italian rate. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. For 1920 and 1928 we used Lindert for secondary school enrollment rates. For 1870, 1880, 1890, 1900 and 1910 secondary school enrollment rates we extrapolated assuming rates of 1.75 percent, 2.38 percent, 2.89 percent, 3.2 percent and 7.70 percent. Prior to 1870 we assumed a .1 percent secondary enrollment rate. Higher education enrollments for 1912-1993 are from Meu Table I2 pp. 895, 897 and 899. We used .00005 and .0001 for enrollment rates in higher education for 1820-1900 and 1910, respectively.

3.3   Italy (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1861, 1871, 1881, 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1980 and 1990 come from Meu Table A2 pp. 28 and 29. The population for 1940 is the geometric interpolation from 1931 and 1951 years in Meu. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1861, 1871, 1881, 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1980 and 1990 come from Meu Table A2 pp. 28 and 29. For years 1820, 1830, 1840 and 1850 we assumed the same age distribution as in 1861. The age distribution for 1940 uses geometric interpolation from 1931 and 1951 years in Meu. The age distribution for Italy for 2000 comes from DK. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1861, 1871, 1881, 1901, 1911, 1921, 1931, 1941, 1951, 1961, 1971, 1980 and 1990 come from Meu Table B1 p. 153. The labor force data for 1820, 1830, 1850, and 1861 are extrapolated from the labor force participation rate for 1871. Labor force data for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real GNP for 1820, 1830, 1840, 1850, 1861, 1871, 1881, 1901, 1911, 1921, 1931, 1951, 1961, 1971 come from Maddison. The 2007 value comes from the WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1861-1998 from Meu Table J1, pp. 907, 911, 917 and 924 and WDR (various years). For 1820, 1830, 1840 and 1850 we used .09. The 2007 value is the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary school from 1861-1993 come from Meu Table I1 pp. 871, 876, 883 and 888. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-18 are secondary school age. Primary school enrollments for 1830 and 1850 come from Lindert. The 1840 value is interpolated between 1830 and 1850. For 1820 we used 5 percent for primary enrollment rate, just slightly less than the 1830 value. Secondary enrollment rates for 1820, 1830, 1840 and 1850 were extrapolated from 1861, and are ..10 percent ,15 percent, .20 percent and .26 percent, respectively. Higher education enrollments for 1861-1993 are from Meu Table I2 pp. 894, 896, 898 and 899. We assume enrollment rates of .01 percent, .05 percent, .1 percent and .1 percent for 1820, 1830, 1840 and 1850, respectively. For 2000 we used WDR. For 2007 we used WDI.

3.4   Malta (1960-2007)

Population for 1960, 1970, 1980, 1990 come from WDI. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1960, 1970, 1980, 1990 come from KF. The age distribution for 2000 and 2007 was assumed to be the same as the age distribution in 1990.

Labor force for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDI.

Real GNP for 1960 and 1970 come from WDI. The 2007 value comes from the World Bank rebenchmarking project, The 1980, 1990 and 2000 values come from the growth rates in WDI and the 2006 base. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1960-2000 WDI. For 1960 we used the investment rate of .06.The 2007 value is the average investment rate for 2000-2005 in S & H.

For all years we used the enrollment rates from WDI, with the exception of 2006 which we used UIS Global Database. We assumed that primary schooling covers ages 6-11, and secondary schooling covers 12-18.

3.5   Portugal (1820-2007)

Population for 1820, 1830, 1840, 1849, 1864, 1875, 1890, 1900, 1911, 1920, 1930, 1940, 1950, 1960, 1970, 1981, 1991 come from Meu Table A1 p. 7. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1849, 1864, 1875, 1890, 1900, 1911, 1920, 1930, 1940, 1950, 1960, 1970, 1981, 1990 come from Meu Table A2 p. 33 and 34. The 1820, 1830, 1840, 1849 data come from

the age distribution for 1864. The age distribution for Portugal for 2000 comes from DK. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1890, 1900, 1911, 1930, 1940, 1950, 1960, 1970, 1981 and 1990 come from Meu Table B1 p. 155. The 1820, 1830, 1840, 1849, 1864, 1875 labor force data are extrapolations using the labor force participation rate for 1890. Labor force data for 2000 come from WDR. Labor force data for 2007 come from WDI.

Real GNPs are from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1953-1998 from Meu Table J1, p. 919 and 925 and WDR (various years). We used a physical capital investment rate of .13 for 1820-1950. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary school from 1849-1993 come from Meu Table I1 pp. 872, 877, 884 and 889. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1849-1985 are from Meu Table I2 pp. 894, 896, 898 and 899. Enrollment rates for primary, secondary and higher education for 1820, 1830, 1840 are assumed to double each generation, and reaching the 1849 figure. For 2000 we used WDR, and for 2007 we used WDI.

3.6   Spain (1820-2007)

Population for 1820, 1830, 1840, 1850, 1870, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 36. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1850, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Meu Table A2 p. 36. The age distribution for 1870 and 1890 are interpolated. The age distribution for 1820, 1830 and 1840 is identical to the 1850 age distribution. The age distribution for Spain for 1990 is interpolated from 1981 and 1992 values. The age distribution for 2000 comes from DK. We assumed the 2007 age distribution is identical to the age distribution in 2000.

Labor force figures for 1850, 1900, 1910, 1920, 1940, 1950, 1964, 1970, 1980 and 1990 come from Meu Table B1 p. 157. The 1870 and 1890 values are interpolated. The 1820, 1830, 1840 labor force data assumes the same labor force/population ratio in 1850. Labor force data for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real GNPs come from Maddision, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1954-1998 from Meu Table J1, pp. 919 and 925 and WDR (various years). We used a physical capital investment rate of .14 for 1820-1949, the average value of Italy over the 1861-1951 period. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary, 1850, 1870, 1885, 1909, 1914, 1926, 1932-1993 and secondary school, 1914-1993 come from Meu Table I1 pp. 878, 885 and 889. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-17 are secondary school age. We assumed a 1 percent enrollment rate for secondary school in 1850. Higher education enrollments for 1884, 1914-1993 are from Meu Table I2 pp. 896, 898 and 899. We assumed higher education enrollment rates of .3 percent, .4 percent, .5 percent, .6 percent for 1850, 1870, 1890 and 1900, respectively. For 1820, 1830, and 1840 we assumed enrollment rates for primary, secondary and higher education double each decade until reaching the 1850 values. For 2000 we used WDR. For 2006 we used WDI.

3.7 Turkey (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1927, 1935, 1945, 1950, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 27. The 1945 value is interpolated from the 1935 and 1950 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1935, 1945, 1950, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 27. The age distribution for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913 and 1927 are assumed to be the same as in 1935. The age distribution for Turkey for 1945 is interpolated from the 1935 and 1950 values. The age distribution for 2000 comes from DK. We assumed that the 2007 age distribution was the same as the 2000 age distribution.

Labor force figures for 1935, 1945, 1950, 1960, 1970, 1980 and 1990 come from Maa Table B1 p. 101. For 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913 and 1927 we used the same LF/population ratio as in 1934. Labor force figures for Turkey 2000 come from WDR. Labor force figures for 2007 come from WDI.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1950-1959 and the intraperiod average gross real capital formation and real income for 1960-1998 from Maa Table J1, p. 1038 and WDR (various years). We used .085 for the investment rate prior to 1913. For the period 1913-1950, inclusive, we used .12. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1925-1993 come from Maa Table I1 pp. 985 and 991. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1923-1993 come from Maa Table I2 pp. 1002 and 1005. We assumed a 14 percent enrollment rate in primary school, 1 percent enrollment rate in secondary school and .1 percent enrollment rate in higher education in 1913. For 1820-1900 we assumed that each decade going back from 1913 had 90 percent of the enrollment rate in the succeeding decade. For 1820-1900 we assumed .1 percent for 1820-1850, and .5 percent for 1860-1900 for secondary enrollment rates. For 1820-1900 we assumed a .01 percent higher education enrollment rate. For 2000 we used WDR. For 2007 we used WDI.

4 Central and Eastern Europe

4.1 Albania (1950-2007)

Population for 1950, 1960, 1970, 1980, 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950 come from Mitchell. Age distributions for 1960, 1970, 1980 are interpolated from 1950 and 1990 age distributions. The age distribution from 1990 and 2000 come from KF. We assumed the 2007 age distribution was identical to the 2000 age distribution.

The labor force data for 1960, 1970 and 1980 come from the WDI. The 1950 value is extrapolated using the average labor force participation rates, LF/population from 1960, 1970 and 1980. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The 2007 labor force figures come from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. We used the Yugoslavian

capital per worker figure for 1990 for the physical capital figure for Albania. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 value was the average of 2000-2007 investment rates from S & H. For years prior to 1980 we used an investment rate of 40 percent.

The 1950 and 1960 enrollment rates were benchmarked to the literacy rate estimates of Banks, et. al. (1967). The 1970, 1980 figures come from WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. The 2007 enrollment rates come from WDI. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Yugoslavian values in 1990, where the proportional constants are the different enrollment rates in 1990 between Albania and Yugoslavia. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.2   Armenia (1970-2007)

Population for 1970 and 1980 come from WDI. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 comes from KF. We assumed the same age distribution for all other years.

Labor force data for 1970 and 1980 comes from WDI. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The 2007 labor force data comes from WDI.

For real output we used Maddison, except for 2007, which comes from WDR. For 1970 and 1980 we assumed a 25 percent investment rate. For 1990 we used the Russian investment rate. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate was the average of 2000-2007 investment rate from S & H.

Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. The 2007 rates are from WDI. For 1970 and 1980 we used WDI.

4.3   Azerbaijan (1970-2007)

Population for 1970 and 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 comes from KF. We assumed that 1970, 1980, 2000 and 2007 all had the same age distribution as 1990.

Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI. The 1970 and 1980 labor force data are extrapolated using the average 1990, 2000 and 2007 labor force participation rates, LF/population.

Real GNPs for 1990 and 2000 come from WDR (various years). The 1970 real output comes from Maddison. The 1980 is an interpolation of the 1970 and 1990 values. The 2007 value comes from WDR. The 1970 and 1980 investment rates are assumed to be 25 percent. The 1990 investment rate was assumed

to be the same as in Russia. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate was the 2000-2006 average investment rate from S & H.

For 1970 and 1980 we assumed the same enrollment rates as in Tajikistan. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. The 2007 data come from WDI. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.4   Belarus (1970-2007)

Population for 1970, and 1980 come from WDI. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assume the age distributions in 1970, 1980, 2000 and 2007 were the same as in 1990.

Labor force for 1970 and 1980 come from WDI. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR The 1970, 1980 investment rates are assumed to be 25 percent. The 1990 investment rate was from the 1989 Russian observation. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 value is the average investment rate from 2000-2006 from S & H.

Enrollment rates in 1970 and 1980 come from WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Soviet Union values in 1989, where the proportional constants are the different enrollment rates in 1989/1990 between Belarus and the Soviet Union. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9. The 2007 values come from WDI.

4.5   Bulgaria (1870-2007)

Populations for 1870, 1880, 1890, 1900, 1910, 1920, 1934, 1946, 1956, 1965 come from Meu Table A2 p. 15. Populations for 1970, 1980 and 1988 come from interpolations of 1965, 1975, 1985 and 1992 figures from Meu Table A2 p. 15. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1890, 1900, 1910, 1920, 1934, 1946, 1956, 1965 come from Meu Table A2 p. 15. Age distribution for 1870 and 1880 is assumed to be identical with the 1890 age distribution. Age distributions for 1970, 1980, 1988 and come from interpolations of 1965, 1975, 1985, 1992 figures from Meu Table A2 p. 15. Age distribution for 2000 comes from DK (1994). We assumed the 2007 age distribution is identical to the 2000 age distribution.

Labor force figures for 1910, 1920, 1934, 1946, 1956, 1965, 1975, 1985 and 1992 come from Meu Table B1 p. 146. The 1870, 1880, 1890 and 1900 labor force data comes from assuming the same LF/population ratio as in 1910. Labor force data for 2000 come from WDR. Labor force data for 2007 come from WDI.

Real GNP comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from 1934-1980 is the average investment rate for Czechoslavakia and Poland over the same period. For 1870, 1880, 1890, 1900, 1910 and 1920 we used the 1934 value. Physical capital investment rate from 1980-1998 comes from S & H online and WDR (various years). For 2006 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary school from 1890-1993 come from Meu Table I1 pp. 873, 880 and 887. For 1870 and 1880 we assumed that the enrollment rate doubles each decade until reaching the value in 1890. To calculate enrollment rates, in 1956 we assumed 6-11 are primary school age and 12-17 are secondary school age. For 1965 we assumed 6-13 are primary school age and 14-17 are secondary school age, this was to maintain consistency with the 1956 numbers and the change in secondary school enrollment rates since 1970. Higher education enrollments for 1895-1993 are from Meu Table I2 pp. 895, 897 and 899. The 2000 values come from WDR, and the 2007 values come from WDI.

4.6 Czechoslavakia (Czech Republic) (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1870, 1890, 1900, 1913, 1921, 1930, 1950, 1961, 1970, 1980 and 1990 come from Meu Table A2 p. 16. Population for Czech Republic 2000 comes from Time Almanac 2001. Population for Czech Republic 2007 comes from *Time Almanac 2008.*

The age distributions of the population for 1921, 1930, 1950, 1961, 1970, 1980 and 1990 come from Meu Table A2 p. 16. For 1820, 1830, 1840, 1850, 1870, 1890, 1900, 1913 we assumed the same age distribution as in 1921. Age distribution for Czech Republic for 2000 comes from KF (1990). We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1921, 1930, 1947, 1961, 1970, 1980, 1991 come from Meu Table B1 p. 147. For years prior to 1921, we averaged the labor force participation rate, LF/population, for 1921, 1930 and 1947. Labor force data for 2000 come from WDR. Labor force data for 2007 come from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Real physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1920-1993 from Meu Table J1, pp. 908, 914 and 922 and WDR (various years). For years prior to 1921 we assumed a 15.5 percent investment rate. For 2007 we used the average of 2000-2007 investment rates from S & H.

Enrollments in primary and secondary school from 1921-1993 come from Meu Table I1 pp. 881 and 887. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments are for 1921-1993 are from Meu Table I2 pp. 897 and 899. We assumed that enrollment rates in 1820, 1830, 1840, 1850 were one quarter of those in Germany in the same year. For 1870, 1890 and 1900 we used the average of Bulgaria and Hungary. For 1913 interpolated between our 1900 value and our 1921 value. For 2000 we used WDR, and for 2007 we used WDI.

4.7 East Germany (1950-1990)

Populations for 1950, 1964, 1971, 1981 come from Meu Table A1 p. 4. Population for 1990 come from S & H (1991).

The age distributions of the population for 1950, 1964, 1971, 1981 come from Meu Table A2 p. 23. Age distribution for 1990 comes from KF.

Labor force figures for 1950, 1961, 1971 come from Meu Table B1 p. 150. Labor force data for 1990 are from HDR. Labor force data for 1981 is interpolated from 1971 and 1990 values.

Real GNP come from Maddison Physical capital investment rates an real income come from the intraperiod averages of gross capital formation and income for 1950-1993 from Meu Table J1, pp. 916 and 923. We used nominal values converted into our real international 1985 dollars because there was little evidence of sustained inflation in the entire East German series.

Enrollments in primary and secondary school for 1950-1989 are from Meu Table I1, p. 882 888 . To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1950-1988 are from Meu Table I2, pp. 897 and 899.

4.8 Estonia (1970-2007)

Population for 1970, 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed that this was the same age distribution as in 1970, 1980, 2000, 2007.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. Labor force data for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average of investment rates from 2000-2006 from S & H.

Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. The 1970 and 1980 rates are the average of Latvia, Lithuania and Moldova. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. The 2007 rates are from WDI. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.9 Georgia (1970-2007)

Population for 1970 and 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. The age distributions for 1970, 1980, 2000 and 2007 are assumed to be the same as in 1990.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force

figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. The 2007 enrollment rates from the WDI. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Soviet Union values in 1989, where the proportional constants are the different enrollment rates in 1989/1990 between Georgia and the Soviet Union. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.10   Hungary (1869-2007)

Populations for 1869, 1880, 1890, 1900, 1910, 1920, 1930, 1941, 1949, 1960, 1970, 1980 and 1991 come from Meu Table A2 pp. 25 and 26. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1869, 1880, 1890, 1900, 1910, 1920, 1930, 1941, 1949, 1960, 1971, 1980 and 1991 come from Meu Table A2 pp. 25 and 26. The age distribution for Hungary for 2000 comes from DK. The age distribution in 2007 is assumed to be the same as in 2000.

Labor force figures for 1880, 1890, 1900, 1910, 1920, 1930, 1949, 1960, 1970, 1980 and 1990 come from Meu Table B1 p. 151. The 1869 value comes from the average labor force participation rate, LF/population, for 1880, 1890 and 1900. Labor force data for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real GNP comes from Maddison, except 2007, which comes from WDR. The 1869-1910 physical capital investment rates are .12. The 1920 physical capital investment rate is from Austria-Hungary over the same period. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1925-1998 from Meu Table J1, pp. 910, 917 and 924 and WDR (various years). The 2007 value is the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary school from 1869-1993 come from Meu Table I1 pp. 875, 883 and 888. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments are from 1875-1993 are from Meu Table I2 pp. 895, 897 and 899. The 2000 values come from WDR, and the 2007 values come from WDI.

4.11   Kazakhstan (1970-2007)

Population for 1970 and 1980 comes from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed that the age distributions 1970, 1980, 2000 and 2007 are the same as the 1990 age distribution.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2006. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

For 1970 and 1980 we used the enrollment rates of Belarus. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We used WDI for enrollment rates in 2007. We assumed the primary school and secondary school ages are 6-13 and 14-17. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.12   Kyrgyzstan (1970-2007)

Population for 1970 and 1980 comes from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed that the age distributions 1970, 1980, 2000 and 2007 are the same as the 1990 age distribution.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2006. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

For 1970 and 1980 we used two thirds of the enrollment rates of Tajikistan. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We used WDI for enrollment rates in 2007. We assumed the primary school and secondary school ages are 6-13 and 14-17. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.13   Latvia (1970-2007)

Population for 1970 and 1980 comes from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed that the age distributions 1970, 1980, 2000 and 2007 are the same as the 1990 age distribution.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2006. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

For 1970 and 1980 we used WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We used WDI for enrollment rates in 2007. We assumed the primary school and secondary school ages are 6-13 and 14-17. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.14 Lithuania (1970-2007)

Population for 1970 and 1980 comes from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed that the age distributions 1970, 1980, 2000 and 2007 are the same as the 1990 age distribution.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

For 1970 and 1980 we used WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We used WDI for enrollment rates in 2007. We assumed the primary school and secondary school ages are 6-13 and 14-17. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.15 Moldova (1970-2007)

Population for 1970 and 1980 comes from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed that the age distributions 1970, 1980, 2000 and 2007 are the same as the 1990 age distribution.

Labor force data for 1970 and 1980 are assumed to come from the average labor force participation rate, LF/population, for 1990, 2000 and 2006. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The

2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

For 1970 and 1980 we used WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We used WDI for enrollment rates in 2007. We assumed the primary school and secondary school ages are 6-13 and 14-17. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9.

4.16   Poland (1870-2007)

Population for 1870, 1890, 1900, 1910, 1921, 1931, 1950, 1960, 1970, 1980, 1991 come from Meu Table A2 p. 32. The 1980 and population is interpolated using 1978, 1991 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1921, 1931, 1950, 1960, 1970, 1980 and 1991 come from Meu Table A2 p. 32. We assumed the age distributions for 1870, 1890, 1900, and 1910 are the same as in 1921. The 1980 age distribution is interpolated using 1978 and 1991 values. The age distribution for Poland for 2000 comes from DK (1994). We assumed the age distribution for 2007 was the same as in 2000.

Labor force figures for 1921, 1931, 1950, 1960, 1970, 1980 come from Meu Table B1 p. 155. We assumed that the labor force for 1870, 1890, 1900 and 1910 come from the average labor force participation rate, LF/population, for 1921. The 1990 and 2000 values are from WDR (various years). The 2007 value comes from WDI.

Real GNP comes from Maddison. except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1947-1998 from Meu Table J1, pp. 918 and 925 and WDR (various years). We used a physical capital investment rate of .2 for 1870, 1890, 1900, 1910, 1921 and 1931. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary school from 1922-1937, 1945-1993 come from Meu Table I1 pp. 884 and 889. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1920-1993 are from Meu Table I2 pp. 898 and 899. For 1870, 1890, 1900, 1910 we assumed primary enrollment rates of 10 percent, 25 percent, 30 percent and 44 percent, respectively. For secondary school enrollment rates we assumed 1 percent, 1 percent, 2 percent and 4 percent, respectively. For higher education enrollment rates we assumed .1 percent, .2 percent, .2 percent and .4 percent, respectively. For 2000 we used WDR, and for 2007 we used WDI.

4.17   Romania (1870-2007)

Populations for 1870, 1890, 1899, 1912, 1920, 1930, 1956, 1966, 1980 come from Meu Table A2 p. 34. The 1990 value is from S & H online. Population for 2000 comes from *Time Alamanc 2001*. Population for 2007 comes from Time Almanac 2008.

The age distributions of the population for 1899, 1912, 1920, 1930, 1956, 1966, 1980 and 1990 come from Meu Table A2 p. 34. The age distribution for 1870 and 1890 are assumed to be the same as in 1899. The age distribution for 1980 and 1990 are interpolations of the 1977 and 1993 values. The age distribution

for Romania for 2000 comes from DK (1994). We assumed that the 2007 age distribution was the same as in 2000.

Labor force figures for 1930, 1956, 1966, 1980 and 1990 come from Meu Table B1 p. 156. For 1870, 1890, 1899, 1912, 1920 we assumed the average labor force participation rate, LF/population, for 1930, 1956 and 1966 holds. Labor force data for 1980, 1990 are interpolations using 1966 and 1992 values. Labor force data for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real incomes come from Maddison, except for 2007, which comes from WDR. We used a physical capital investment rate of 10 percent for 1870 and 1890. We used a physical capital investment rate of .12 for 1899, 1912, 1920 and 1930, and .2 for 1956. Physical capital investment rates for 1960-1998 are from S & H online and WDR (various years). For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary school from 1870, 1890, 1899, 1912, 1930-1993 come from Meu Table I1 pp. 877, 884 and 889. For 1920 we used Lindert. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1900-1993 are from Meu Table I2 pp. 896, 898 and 899. For 2000 we used WDR, and for 2007 we used WDI.

4.18   Soviet Union/Russia (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1890, 1897, 1917, 1926, 1939, 1959, 1970, 1989 come from Meu Table A1 p. 7. Population for Soviet Union in 1980 comes from S & H online at NBER. Population for Russia in 2000 comes from *Time Almanac 2001*. Population for Russia in 2007 comes from *Time Almanac 2008*.

The age distribution of the population for 1897, 1917, 1926, 1939, 1959, 1970, 1987 comes from Meu Table A2 p. 35. For 1820, 1830 1840, 1850, 1860, 1870, 1890 we assumed the age distribution of 1897 was identical. The 1917 value is an interpolation of the 1897 and 1926 values. The age distribution for 1980 and 2000 come from KF. We assumed the 2007 age distribution was the same as the 2000 age distribution.

For 1820, 1830, 1840, 1850, 1860, 1870, 1890, 1897 we assumed a 50 percent labor force participation rate, LF/population, which is roughly the average participation rate from 1917 onward. Labor force figures for 1917, 1927, 1959 and 1970 come from Meu Table B1 p. 156. Labor force data for 1917 and 1939 are interpolations of 1897 and 1926, and 1959 values. The 1980 labor force is from extrapolation of the 1970 labor force participation rate. Labor force data for 1987 comes from the HDR (1990). Labor force data for 2000 come from *Time Almanac 2001*. The 2007 labor force data comes from WDI.

Real GNPs are from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod averages of gross real capital formation and real income for 1938-1998 from Meu Table J1, pp. 912, 919 and 925 and WDR (various years). We used a physical capital investment rate of .155 for 1820-1939. For 2007 we used the average investment rate over 2000-2006 from S & H.

Enrollments for 1850 and 1860 we used Morris and Adelman. For 1820, 1830, 1840 we assumed the same primary and higher education enrollment rates as in 1850, and for secondary enrollment rates, we assumed half the 1850 secondary enrollment rate. For 1870, 1890, 1897 we used Cameron. For 1917, 1926, 1939, 1959, and 1970 we used Clarke. Enrollment rates in primary, secondary and higher education for 1959, 1970, 1980, 1987 and 1996 are from WDR (various years). Enrollment rates prior to 1959 are from Soviet Economic Facts 1970. For 2000 we used WDR, and for 2007 we used WDI.

4.19   Slovak Republic (1990-2007)

Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1990 comes from KF. We assumed the 2000 and 2007 age distributions are identical to 1990 age distribution.

Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1990 observation for Czechoslavakia. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Soviet Union values in 1989, where the proportional constants are the different enrollment rates in 1989/1990 between the Slovak Republic and the Czechoslavakia. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9. The 2007 values are from WDI.

4.20   Tajikistan (1970-2007)

Population for 1970 and 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 come from KF. We assumed the 1970, 1980, 2000 and 2007 age distributions were the same as the 1990 age distribution.

The labor force data for 1970 and 1980 comes from the average labor force participation rate, LF/population, from 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

Enrollment rates for 1970 and 1980 come from WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Soviet Union values in 1989, where the proportional constants are the different enrollment rates in 1989/1990 between Tajikstan and the Soviet Union. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9. The 2007 data come from WDI.

4.21   Turkmenistan (1970-2007)

Population for 1970 and 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 come from KF. We assumed the 1970, 1980, 2000 and 2007 age distributions were the same as the 1990 age distribution.

The labor force data for 1970 and 1980 comes from the average labor force participation rate, LF/population, from 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

We used the same enrollment rates as for Tajikistan.

4.22   Ukraine (1970-2007)

Population for 1970 and 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 come from KF. We assumed the 1970, 1980, 2000 and 2007 age distributions were the same as the 1990 age distribution.

The labor force data for 1970 and 1980 comes from the average labor force participation rate, LF/population, from 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

Enrollment rates for 1970 and 1980 come from WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Soviet Union values in 1989, where the proportional constants are the different enrollment rates in 1989/1990 between Tajikstan and the Soviet Union. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9. The 2007 data come from WDI.

4.23   Uzbekistan (1970-2007)

Population for 1970 and 1980 come from Maddison. Population for 1990 comes from WDR. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 come from KF. We assumed the 1970, 1980, 2000 and 2007 age distributions were the same as the 1990 age distribution.

The labor force data for 1970 and 1980 comes from the average labor force participation rate, LF/population, from 1990, 2000 and 2007. Labor force figures for 1990 come from HDR. Labor force figures for 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. The 1990 investment rate was from the 1989 Russian observation. We assumed a 25 percent investment rate for 1970 and 1980. The 2000 investment rate is the intraperiod average investment rate taken from WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

Enrollment rates for 1970 and 1980 come from WDI. Enrollments in primary and secondary schools for 1990 come from the Statistical Yearbook 1996, Table 9. We adjusted the enrollments in primary school to include 50 percent of the reported secondary enrollments, and we reduced the secondary enrollments by 50 percent. This was done to fit the 2000 enrollment rates reported in the WDR. We assumed the primary school and secondary school ages are 6-13 and 14-17. We assumed that the initial stocks of primary, secondary and tertiary human capital are proportional to the Soviet Union values in 1989, where the proportional constants are the different enrollment rates in 1989/1990 between Tajikstan and the Soviet Union. The tertiary school enrollments are from the Statistical Yearbook 1996, Table 9. The 2007 data come from WDI.

4.24   Yugoslavia (1910-2007)

Populations for 1910, 1920, 1930 and 1940 come from Maddison. Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1921, 1931, 1961, 1971, 1981, 1990 come from Meu Table A2 p. 44. The age distribution for 1910 is assumed to be identical to the age distribution in 1921. We interpolated using the 1931, 1948 and 1953 values in Meu Table A2 p. 44 to generate the 1941 and 1951 age distribution. The age distribution for 2000 comes from KF. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1921, 1931, 1961, 1971, 1981 come from Meu Table B1 p. 160. The labor force figures for 1910 comes from the same labor force participation rate, LF/population, as 1921. We interpolated using the 1948 and 1953 values to generate the 1941 and 1951 labor force observations. The 1990 observation comes from HDR 1994. The labor force figures for 2000 come from WDR. The 2007 labor force figures come from assuming the same labor force participation rate as in 2000.

Real GNPs for 1910, 1921, 1931, 1941, 1950, 1960, 1970, 1980, 1990 and 2000 come from Maddison. The 2007 figure comes from WDR. The 1920-1952 investment rates are for Italy over the same period and the intraperiod average investment rate taken from Meu Table J1 pp. 921 and 926, for 1953-1993 and WDR (various years). We used the 1920 value for 1910. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary schools for 1910-2000 come from Meu Table I1 p. 886 and 890. We assumed the primary school and secondary school ages are 6-9 and 10-17. The tertiary school enrollments are from Meu Table I2 pp. 898 and 899. For 2007 we used WDI.

5 Newly Industrialized Countries

5.1 Hong Kong (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960 and 1970 come from Maa Table A1 p. 7. Populations for 1980 and 1990 come from S & H (1991). Population for 2000 comes from extrapolating DK population figure for 1993, using annual population growth rate from 1988-1993. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1961, 1970, 1980, 1990 and 2000 come from personal internet correspondence with Ms. Vivian Chan, for the Commissioner for Census and Statistics. We used the 1961 age distribution for years 1820-1950. We used the 2000 age distribution for 2007.

The labor force data for 1960 and 1970 come from WDR (various years). The labor force for 1980, 1990 and 2000 from personal correspondence with Ms. Vivian Chan, for the Commissioner for Census and Statistics. The 1850-1950 labor force data comes from assuming the same labor force participation rate as in 1960. The labor force for 2007 comes from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1963-1975 from Maa Table J1, p. 1028 and from 1976-1998 from S & H online and WDR (various years). Prior to 1950 we used a physical capital investment rate of .05. For 1950 and 1960 we assumed an investment rate of .20. For 2007 we used the average investment rate for 2000-2006 from S & H.

For 1950 we used data from UNESCO. Enrollment rates for 1960, 1970, 1980, 1990 and 2000 come from personal internet correspondence with Education Department Rm 1420 Wu Chung, 213 Queens Road East, Hong Kong. For years prior to 1950, we assumed that each enrollment rate was 85 percent of the succeeding decade's enrollment rate. For 2007 we used government data on the internet.

5.2 Japan (1820-2007)

Populations for 1872, 1880, 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 22. Population for 1800 and 1850 comes from McEvedy and Jones. The 1820, 1830 and 1840 values are interpolated between these two McEvedy and Jones data. Population for 1890 comes from Maa Table A1 p. 8. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1890, 1900, 1910, 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 22. The 1890 age distribution is interpolated from 1884 and 1893 values. The age distributions prior to 1890 are assumed to be identical to the age distribution in 1890. The age distributions for Japan 2000 come from DK. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1920, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Maa Table B1 p. 97. All labor force data prior to 1920 is the average labor force participation rate, LF/population, for 1920, 1930 and 1940. Labor force figure for Japan 2000 come from WDR. The labor force data for 2007 comes from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1885-1998 from

Maa Table J1, pp. 1025, 1026 and 1031 and WDR (various years). For years prior to 1850 we assumed an investment rate of .05. We assumed the 1890 value holds for 1850, 1860, 1872, 1880. The 2007 value is the average investment rate from 2000-2006 from S & H.

For 1830, 1840 and 1850 we used Steckel and Floud. For 1820 we assumed the same enrollment rates as in 1830. Enrollments in primary and secondary schools from 1873-1993 come from Maa Table I1 pp. 981, 983 and 987. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1873-1993 come from Maa Table I2 pp. 1001 and 1004. For 2007 we used WDI.

5.3   Singapore (1820-2007)

Population for 1820-1950 comes from Maddison. Population for 1963 is geometrically interpolated from 1957 and 1970 from Maa Table A1 p. 9. Populations for 1970 and 1980 come from Maa Table A1 p. 9. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1963, 1970, 1980, 1990 and 2000 comes from KF. We assumed the age distribution for 1850-1950 is the same as the age distribution in 1963. We assumed the age distribution for 2007 was the same as for 2000.

The labor force data for 1950, for 1963 is interpolated from 1957, 1970, 1980 and 1989 come from Maa Table B1 p. 99. Prior to 1950, we used the same labor force/population ratio in 1950. The labor force for Singapore 2000 comes from WDR. Labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1960-1998 from Maa Table J1, p. 1036 and WDR (various years). We assumed a 5 percent investment rate for 1820-1890. We assume an investment rate of .12 for years 1900-1950. For 2007 we used the average investment rates for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1947-1993 come from Maa Table I1 pp. 985 and 990. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1951-1993 come from Maa Table I2 p. 1005. For 1947 enrollment rates, we assumed them to be 90 percent of the 1950 enrollment rates. For years prior to 1947, we assumed that enrollment rates were 80 percent of the succeeding decade's enrollment rates. For 2000 we used WDR. For 2007 we used data from the UIS Global Database.

5.4   (South) Korea (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910 and 1920 come from Maddison. Populations for 1940 and 1950 are geometrically interpolated from 1930, 1944 and 1960 from Maa Table A2 p. 23. Populations for 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 23. The 1990 value is interpolated from the 1980 and 1994 value. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions in 1820-1920 are extrapolated from the age distribution in 1930. The age distributions for 1940, 1950 are geometrically interpolated from 1930 and 1944 and 1960 from Maa Table A2 p. 23. The age distributions for South Korea for 1960, 1970, 1980 and 1990 come from Maa Table A2 p.

23. The age distribution for 1990 is interpolated from the 1980 and 1994 values. The age distribution for South Korea in 2000 comes from DK. The age distribution in 2007 is assumed to be the same as in 2000.

Labor force figures for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930 and 1940 come from the labor force participation rate in 1945. Labor force figures for 1945, 1960, 1970, 1980 come from Maa Table B1 p. 97. Labor force figures for the South Korea 1990 and 2000 come from WDR (various years). Labor force data for 2007 come from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1911-1998 from Maa Table J1, pp. 1025, 1026and 1032 and WDR (various years). We used 5 percent for the investment rate for years prior to 1920. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1910-1938 for Korea Maa Table I1 p. 983. For years prior to 1910, we assume a 1 percent enrollment rate in primary school, .05 percent enrollment rate in secondary school and .001 percent enrollment rate in higher education. For South Korea enrollments in primary and secondary schools from 1946-1993 come from Maa Table I1 p. 988. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1925-1993 come from Maa Table I2 pp. 1001 and 1004. We assumed 1 percent enrollment rate in 1900 for primary school, .005 percent enrollment rate for secondary school and .001 percent enrollment rate for higher education. For 2007 we used WDI.

5.5 Taiwan (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1905, 1915, 1920, 1930, 1940, 1956, 1966, 1970 and 1980 come from Maa Table A2 p. 26. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1905, 1915, 1920, 1930, 1940, 1956, 1966, 1970 and 1980 come from Maa Table A2 p. 26. We assume that the age distribution prior to 1905 is identical to the age distribution in 1905. The age distribution for Taiwan for 1990 comes from DK. We assume the same age distribution in 2000 and 2007 as for 1990.

Labor force figures for 1905, 1915, 1920, 1930 1940 1954, 1964, 1970, 1980 come from Maa Table B1 p. 100. Labor force data for 1820-1890 assume the same labor force/population ratio as in 1905. Labor force figures for Taiwan 1990 and 2000 come from WDR (various years). The labor force figures for Taiwan for 2007 assumes the same labor force participation rates, LF/population, as in 2000.

Real GNPscome from Maddison, except for 2007, which comes from S & H. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1904-1998 from Maa Table J1, pp. 1025, 1026 and 1037 and WDR (various years). For years prior to 1905 we assumed an investment rate of 4 percent. We used the average investment rate for 2000-2006 from S & H for 2007.

Enrollments in schools from 1905-1937 and for primary and secondary schools from 1940-1993 come from Maa Table I1 pp. 985 and 991. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. For 1905, 1915, 1920 and 1930 we assumed that primary enrollments were the bulk of school enrollments. For years prior to 1905 we assumed that primary enrollment rates were 90 percent of the succeeding decade's primary enrollment rate. For 1820-1860 we assumed a .01 percent secondary enrollment rate, and for 1870-1900, we assumed a .05 percent secondary enrollment rate. For 1820-1860 higher education enrollment rates, we assume 0. For 1870-1900 we assumed a rate of .01 percent.

Higher education enrollments for 1920-1993 come from Maa Table I2 pp. 1002 and 1005. For 2000 we used WDR. For 2007 we used data from government internet site.

6 Asia

6.1 Afghanistan (1950-2007)

Population for 1950, 1960, 1970, 1980 and 1990 come from KF. Population for 2000 comes from WDR. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1950, 1960, 1970, 1980, 1990 come from KF. We assumed the same age distribution in 2000 and 2007 as in 1970.

Labor force for 1950, 1960, 1970 come from WDI. Labor force for 1980 comes from WDR. Labor force for 2000 and 2007 come from CIA Factbook. We interpolated the 1990 labor force from 1980 and 2000.

The 1950, 1960, 1970, 1980 1990 and 2000 real output data come from Maddison. The 2007 value comes from the CIA Factbook. Physical capital investment rates from WDI for 1960-1979 are averaged to produce 1970 and 1980 investment rates. We assumed an 8 percent investment rate for 1950, 1960, 1990 and 2000 and 2007.

We used enrollment rates from WDR for 1960, 1980, 1990. For 2007 we used WDI. We averaged the enrollment rates in 2000 from WDR with 2006 to get our 2000 estimate. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for were essentially 0. For 1950 we assumed a 7 percent primary school enrollment rate and a 1 percent secondary school enrollment rate.

6.2 Bangladesh (1950-2007)

Population for 1950, 1960, 1970, 1980, 1990 come from KF. Population for 2000 comes from WDR. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for Bangladesh 1961, 1974, 1981 and 1991 come from Maa Table B1 p. 95. We used the 1961 labor force participation rate, LF/population, for 1950. Labor force figures for Bangladesh 2000 come from 1991 labor force participation rate. The 2007 labor force data comes from WDI.

The real output data come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1970-2007 come from the intraperiod average gross investment rates from S & H online and WDR (various years). We assumed a 10 percent investment rate for all years 1970-1990. For years prior 1970 we assumed an investment rate of 7.5 percent.

Enrollments in primary and secondary schools from 1947-1992 come from Maa Table I1 pp. 982 and 986. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-17 are secondary school age. Higher education enrollments for 1947-1993 come from Maa Table I2 p. 1003. For 2000 we used WDR, and for 2007 we used WDI.

6.3 Bhutan (1980-2007)

Population for 1980, 1990 come from KF. Population for 2000 comes from WDR. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1980, 1990 and 2000 come from KF. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1980, 1990 and 2000 come from WDI. We used the average labor force participation rate, LF/population, for 1980, 1990 and 2000, for 2007.

The 2007 value comes from the World Bank rebenchmarking project. We used the WDI growth rates and the 2006 base level to produce estimates for 2000, 1990, and 1980. We assumed that the most accurate estimates come from 2006, and that the growth rates from WDI are more accurate than original WDI or WDR levels. These values are quite similar, nonetheless. The 1980 value is 116 percent of the original WDI. The 1990 value is 133 percent of the original WDI. The 2000 value is 184 percent of the WDR. Physical capital investment rates for 2000 and 2007 come from the intraperiod average gross investment rates from S & H online and WDI (various years). We assumed a 5 percent investment rate for 1980.

Enrollments in primary and secondary schools from 1980 and 1990 come from WDI. The 2000 and 2007 data come from UIS Global Database. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-15 are secondary school age

6.4 Cambodia (1950-2007)

Population for 1950, 1960, 1970, 1980 and 1990 come from WDR (various years). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 2000 age distribution was the same as the 2007 age distribution.

Labor force data for 1960 come from WDI. The labor force data for 1970 is an interpolation of data for 1960 and 1980. The 1950 labor force data uses the 1960 labor force participation rate, LF/population. Labor force figures for 1990 come from HDR. Labor force figures for 1980 and 2000 come from WDR. The labor force data for 2007 come from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. We assumed investment rates of 12 percent for 1950 and 1960 observations. The 1970, 1980, 1990 and 2000 investment rates are from WDI. The 2007 value is the average investment rate for 2000-2006 from S & H.

Enrollment rates in 1950 come from Mitchell. Enrollment rates in primary and secondary schools for 1960-1990 come from WDI (various years). The 2000 values come from UNESCO, and the 2007 values come from WDI. We assume primary school and secondary school ages are 6-11, 12-18. Tertiary enrollment rates are from WDR (various years).

6.5 China (1820-2007)

Populations for 1953, 1982 and 1990 come from Maa Table A2 p. 19. Population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900 come from McEvedy and Jones. Population for 1913, 1933, 1960 and 1970 come from Mn2. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1953, 1982, and 1990 comes from Maa Table A2 p. 19. The age distribution for all years prior to 1953 are assumed to be identical to the age distribution in 1953. The age distributions for 1960 and 1970 come from KF. The age distributions for 2000 and 2007 are assumed to be identical with the 1990 age distribution.

The labor force data for 1933 and 1953 come from Mn2. The labor force data for 1970 and 1982 come from WDR (various years). The labor force data prior to 1933 are assumed to have the same labor force participation rate, LF/population as in 1933. Labor force for 1960 comes from interpolation of the 1953 and 1970 values. Labor force for 1990 comes from the HDR, and the labor force for 2000 comes from the WDR. The 2007 labor force data comes from the WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates from 1960-1998 come from S & H online at NBER web site and WDR (various years). Physical capital investment rates prior to 1960 come from Mn2 Table 3.9, p. 64. We assumed a 11.25 percent investment rate from 1820-1930. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollment rates for the 1930s, 1953, 1982 and 1990 come from Mn2 Table 3.7, p. 63 and the age distribution of the population. Enrollment rates for 1960 and 1970 are from the World Development Report. For 1850-1913 we used Morris and Adelman. For years prior to 1850 we assumed the same enrollment rate as in 1850. Higher education enrollments for 1946-1993 come from Maa Table I2 p. 1003. Prior to 1946 enrollments come from Mn2 Table 3.7, p. 63. FFor 2000 we used WDR, and for 2007 we used WDI.

6.6   Fiji (1960-2007)

Populations for 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1960, 1970, 1980, 1990 and 2000 come from KF. The age distribution for 2007 is assumed to be identical with the age distribution in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980 and 2000 come from WDR (various years). The labor force figures for 2007 comes from WDI.

Real GNPs for all years come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years).

Enrollments in primary and secondary schools for 1960-2000 come from Maa Table I1 p. 993. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from WDR (various years). The 2007 data comes from the online UIS Global Database.

6.7   India (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1890, 1901, 1911, 1921, 1931, 1951, 1961, 1971 and 1981 come from Maa Table A2 pp. 19 and 20. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1890, 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1981 and 1990 come from Maa Table A2 pp. 19 and 20. We assumed the age distribution for 1820, 1830, 1840, 1850, 1860 and 1870 to be identical to the age distribution in 1890. The age distribution for India for 1990 is interpolated from 1981

and 1993 values. The age distribution for India for 2000 come from DK. The age distribution in 2007 is assumed to be the same as in 2000.

Labor force figures for 1901, 1911, 1921, 1931, 1951, 1961, 1971, 1981 and 1990 come from Maa Table B1 p. 95. We assumed the labor force for 1820, 1830, 1840, 1850, 1860, 1870 and 1890 come from the same average labor force participation rate, LF/population, 1901, 1911 and 1921. Labor force figures for India for 1990 is interpolated from 1981 and 1991 values. Labor force figures for 2000 comes from WDR. The labor force figures for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. For the 1820-1931 period we assumed an investment rate of .12. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1950-1993 from Maa Table J1, p. 1028 and WDR (various years). For 2000 and 2007 we used intraperiod averages from S & H.

Enrollments in primary and secondary schools for 1850, 1870, 1890, 1901 are from Lindert. Enrollments in primary and secondary schools from 1911-1993 come from Maa Table I1 pp. 980, 982 and 986. For years prior to 1850 we used the 1850 primary enrollment rate in primary school, and the 1850 secondary enrollment rate in secondary school, and 0, 0 and .005 percent for higher education enrollment rates in 1820, 1830 and 1840, respectively. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1873-1986 come from Maa Table I2 pp. 1001 and 1003. For 2000 we used WDR, and for 2007 we used WDI.

6.8 Indonesia (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1890, 1900, 1910, 1920 come from Maddison. Populations for 1930, 1940, 1951, 1961, 1971 and 1980 come from Maa Table A1 p. 7. The population for 1951 is interpolated from the 1930 and 1961 values. Population for 1990 from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1961, 1971 and 1980 come from Maa Table A2 p.20. The age distribution for all years prior to 1961 are assumed to be identical with the age distribution of 1961. The age distribution for Indonesia for 1990 and 2000 come from DK. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force for all years prior to 1961 assumes the same labor force participation rate, LF/population, as in 1961. Labor force figures for 1961, 1971 and 1980 comes from Maa Table B1 p. 96. Labor force figures for Indonesia for 1990 and 2000 come from WDR (various years). Labor force figures for 2007 come from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1951-1957 and the intraperiod average gross real capital formation and real income for 1958-1998 from Maa Table J1, p. 1029 and WDR (various years). We assumed a11.25 percent investment rate for years prior to 1951. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1866-1938, 1954-1992 come from Maa Table I1 pp. 980, 982 and 987. We used the 1870 enrollment rates for all year prior to 1870. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1920-1993 come from Maa Table I2 pp. 1001 and 1003. For 2000 and 2007 we used WDR and WDI, respectively.

6.9   Laos (1950-2007)

Populations for 1950, 1960 come from WDI. Population for 1970 comes from Maddison. Population for 1980 comes from WDR. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 2007 age distribution is the same age the 2000 age distribution.

The labor force data for 1960 comes from the WDI. The 1950 labor force data assumes the same labor force participation rate, LF/population, as in 1960. Labor force figures for 1970, 1980 1990 come from HDR. Labor force figures for 2000 come from WDR. Labor force data for 2007 comes from WDI.

Real output comes from Maddison, except for 2007, which comes from WDR. We assumed an investment rate of 12 percent for the years prior to 1990. The 1990 investment rate comes from the intraperiod average investment rate from S & H online. The 2000 investment rate is the intraperiod average investment rates taken from WDR (various years). The 2007 investment rate is the 2000-2006 average investment rate from S & H.

The 1950 enrollment rates are from Mitchell. Enrollment rates in primary and secondary schools for 1960-1990 come from WDI (various years). The 2000 enrollment rates come from UNESCO. The 2007 enrollment rates come from WDR. We assumed that primary school and secondary school ages are 6-10 and 11-16. Tertiary school enrollment rates are from WDR (various years).

6.10   Malaysia (1820-2006)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950 comes from Mitchell. Populations for 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the age distributions for all years prior to 1950 were the same as in 1950. We assumed the age distribution in 2007 was the same as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980 and 2000 come from WDR (various years). The 1950 labor force figures come from Mitchell. We assumed the same labor force participation rate for all years prior to 1950 as in 1950. The 2007 labor force comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. The 1950-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). The investment rate prior to 1913-1950 is assumed to be the same as the 1950 investment rate. For all years prior to 1913 we assumed an investment rate of 7.4 percent. The 2007 investment rate is the average 2000-2006 investment rates from S & H.

Enrollments in primary and secondary schools for 1910-2000 come from Maa Table I1 p. 988. For all years prior to 1913 we assumed that each decade's enrollment rates were 75 percent of the succeeding decade's comparable enrollment rates. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 1004. The 2007 rates come from WDI.

6.11 Mongolia (1950-2007)

Population for 1950, 1960, 1970, 1980 and 1990 come from KF. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 2000 age distribution was the same as the 2007 age distribution.

Labor force data for 1960, 1970 and 2007 come from WDI. The labor force data for 1980 comes from WDR. The 1950 labor force data uses the 1960 labor force participation rate, LF/population. The 2000 labor force comes from CIA Factbook. Labor force figures for 1990 is interpolated from the 1980 and 2000 data.

Real output come from Maddison, except for 2007, which comes from WDR. We assumed investment rates of 25 percent for 1950, 1960 and 1970 observations. The 1980, 1990 and 2000 investment rates are from WDI. The 2007 value is the average investment rate for 2000-2006 from S & H.

Enrollment rates in 1950 come from Banks et al. Enrollment rates in primary and secondary schools and higher education for 1960-2007 come from WDI (various years). We assume primary school and secondary school ages are 6-10, 11-17.

6.12 Myanmar (1820-2007)

Population for 1820, 1830, 1840, 1850 come from McEvedy and Jones. Populations for 1870, 1881, 1891, 1901, 1911, 1921 and 1931 come from Mitchell. Populations for 1941, 1951, 1961 come from Maddison. Population for 1973 and 1983 come from Maa Table A1 p. 9. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1881, 1891, 1901, 1911, 1921, 1931, 1941, 1951, 1961, 1973 and 1983 come from Maa Table A2 p. 24. The 1941, 1951 values are interpolated from the 1931 age distribution and the 1961 age distribution. The age distributions for 1820, 1830, 1840, 1850, 1860, 1870 are assumed to be the same as the age distribution in 1881. The age distribution for Myanmar 2000 comes from DK. The 2007 age distribution is assumed to be the same as the 2000 age distribution.

Labor force figures for 1983 come from Maa Table B1 p. 98. Labor force data for all years prior to 1961 are extrapolated from 1961 labor force participation rate. The labor force for 1961 and 1973 and 2000 are from WDR (various years). The 2007 labor force data come from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1947-1962 and the intraperiod average gross real capital formation and real income for 1963-1998 from Maa Table J1, pp. 1033 and WDR (various years). For all years prior to 1951 we used .12. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1870-1993 come from Maa Table I1 pp. 981, 984 and 988. For 1820-1860 we used the primary, secondary and higher education enrollment rates in 1870. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-16 are secondary school age. Higher education enrollments for 1894-1993 come from Maa Table I2 pp. 1001, 1002 and 1004. For years 1850, 1860 and 1870 we used adjusted Morris and Adelman data. For 2007 we used WDI.

6.13 Nepal (1950-2007)

Population for 1950 comes from Maddison. Populations for 1960, 1970, 1980, 1986 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1986 and 2000 come from KF. We assumed the age distribution in 2007 was the same as the age distribution in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980, 1986 and 2000 come from WDR (various years). Labor force data for 1950 assumes the same labor force participation rate as in 1960. The 2007 labor force data come from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 7.5 percent and 5 percent investment rates for 1950 and 1960, respectively. The 2007 investment rate is the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 989. We assumed the primary school and secondary school ages are 6-10 and 11-15. The tertiary school enrollments are from WDR (various years). The 2007 rates come from WDI.

6.14 North Korea (1820-2007)

Population for 1950, 1960, 1970, 1980 and 1990 come from KF. Population prior to 1950 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed that the age distribution prior to 1950 were identical to the 1950 age distribution. We assumed the 2000 age distribution was the same as the 2007 age distribution.

Labor force data for 1960, 1970, 1980, 1990 and 2007 come from WDI. The 1820-1950 labor force data uses the 1960 labor force participation rate, LF/population. The 2000 labor force comes from CIA Factbook.

Real output come from Maddison, except for 2007. The 2007 value comes from the CIA Factbook. For years earlier than 1920 we assumed an investment rate of 11 percent. For years 1920-2000, we assumed investment rates were the average of China and Russia for the same year, except for 2007, when we used the average from WDI.

Enrollment rates in 1950 and 1960 come from Mitchell. WDR was used to provide enrollment rates in 1970, 1980 and 1990. We assumed 90 percent enrollment rates in primary school in 2000 and 2007, and 90 percent enrollment rates in secondary school for the same years. We assumed 7 percent higher education enrollment rates for these years as well. Prior to 1950 we assumed that each decade's enrollment rates were 60 percent of the succeeding decade's enrollment rate. We assume primary school and secondary school ages are 6-9, 10-15.

6.15 Pakistan (1950-2007)

Populations for 1950, 1961, 1972 and 1981 come from Maa Table A2 p. 24. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1961, 1972 and 1981 comes from Maa Table A2 p. 24. The age distributions for Pakistan 1990 and 2000 come from DK. The age distribution for 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1950, 1961, 1972, 1981 come from Maa Table B1 p. 98. Labor force data for Pakistan 1990 and 2000 come from WDR (various years). The labor force data for 2007 comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1959-1998 from S & H online. For the 1950 observation we used 7 percent for the physical capital investment rate. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1947-1993 come from M (1983) Table I1 pp. 984 and 989. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1947-1993 come from Maa Table I2 p. 1004. The 2000 and 2007 rates come from WDR, and WDI, respectively.

6.16   Papua New Guinea (1960-2007)

Populations for 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1960, 1970, 1980, 1990 and 2000 come from KF. The age distribution for 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980 and 2000 come from WDR (various years). Labor force data for 2007 comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. For 1960 we used 16.5 percent investment rate. The 1961-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). The 2007 investment rate is the 2000-2006 average investment rate from S & H.

Enrollments in primary and secondary schools for 1960-2000 come from Maa Table I1 p. 993. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from WDR (various years). The 2007 enrollment rates come from WDI.

6.17   Philippines (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1939, 1948, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 25. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1939, 1948, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 25. The age distributions in 1820-1900 and 1913 are assumed to be identical to the age distribution in 1939. The age distribution for the Philippines 1990 is interpolated from 1980 and 1991 values. The age distribution for 2000 comes from DK. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1939, 1948, 1960, 1970, 1975, 1980 and 1990 come from Maa Table B1 p. 98. Labor force figures for 1820-1900 and 1913 are assumed to have the same labor force participation rates, LF/population, as in 1939. Labor force figures for the Philippines 1980 and 1990 are interpolated from

1975 and 1993 values. Labor force figure for 2000 comes from WDR. Labor force figure for 2007 comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1946-1998 from Maa Table J1, p. 1035 and WDR (various years). For years prior to 1948 we used 15 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

For enrollments in primary and secondary schools for 1900 and 1913 we used Lindert. Enrollments in primary and secondary schools from 1920-1993 come from Maa Table I1 pp. 984 and 989. For 1820-1890 primary enrollment rates, we assumed: 2.5 percent, 2.5 percent, 5 percent, 5 percent, 5 percent, 5 percent, 5 percent, 10 percent and 11 percent, respectively. For 1820-1890 secondary enrollment rates we assume .2 percent. For 1820-1900 higher education enrollment rates we assumed .005 percent. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1910-1993 come from Maa Table I2 pp. 1002 and 1005. For 2000 we used WDR, and for 2007 we used WDI.

6.18   Sri Lanka (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1946, 1953, 1963, 1971, 1981 and 1991 from Maa Table A1 p. 9. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1946, 1953, 1963, 1971, 1981 and 1991 come from Maa Table A2 p. 25. The age distributions for all years prior to 1946 are assumed to be identical to the age distribution in 1946. The age distribution for Sri Lanka for 2000 comes from KF. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1946, 1953, 1963, 1971, 1981 come from Maa Table B1 p. 99. Labor force figures for all years prior to 1946 are assumed to have the same labor force participation rate, LF/population, as in 1946. Labor force figures for Sri Lanka 1991 and 2000 come from WDR (various years). The labor force figures for 2007 comes from WDI.

Real output come from Maddsion, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1950-1990 and 1994-1998 come from Maa Table J1, p. 1036 and WDR (various years). Prior to 1950 we used the intraperiod average gross capital formation and income for 1947-1949 from Maa Table J1, p. 1036. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollment rates for primary school and higher education in 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900 and 1913 come from Lindert. For 1820 we assumed primary, secondary and higher education enrollment rates of: 10 percent, .5 percent and .001 percent, respectively. For secondary rates over this period, except for 1913, we used one tenth of the enrollment rate in primary school for secondary school enrollment rates. Enrollments in schools from 1910-1993 come from Maa Table I1 p. 985 and 990. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1921-1990 come from Maa Table I2 pp. 1002 and 1005. For 2000 we used WDR, and for 2007 we used the online UIS Global Database.

6.19   Thailand (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1917, 1927, 1937, 1947, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 27. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1937, 1947, 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 27. The age distributions for 1820-1900, 1917 and 1927 are assumed to be identical to the age distribution in 1937. The age distribution for Thailand for 1990 is interpolated from 1980 and 1991 values. The age distribution for 2000 comes from DK. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1937 1947, 1960, 1970, 1980 and 1990 come from Maa Table B1 p. 101. Labor force figures for 1820-1900, 1917 and 1927 are assumed to have the same labor force participation rate, LF/population, as 1937. Labor force figure for Thailand 2000 comes from WDR. Labor force figures for 2007 come from WDI.

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1957-1998 from Maa Table J1, p. 1038 and WDR (various years). We used the intraperiod average gross capital formation and income for 1952-1956. For years 1900 to 1946, we assumed an investment rate of 12 percent. For years prior to 1900 we used an investment rate of 10 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

For 1900 we used Lindert for enrollment rates in primary, secondary and higher education. For primary enrollment rates prior to 1900, we assumed that each decade's enrollment rate was 90 percent of the succeeding decade's primary enrollment rate. For secondary enrollment rates prior to 1900 we assumed .01 percent. For higher education enrollment rates prior to 1900, we assumed .001 percent. Enrollments in primary and secondary schools from 1913-1993 come from Maa Table I1 pp. 985 and 991. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1915-1993 come from Maa Table I2 pp. 1002 and 1005. For 2000 and 2006 we used WDR, and WDI, respectively.

6.20   Vietnam (1950-2007)

Populations for 1950, 1960 and 1970 come from WDI. Populations for 1980 and 1990 come from WDR (various years). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the age distribution for 1950 was identical with the age distribution in 1960. We assumed the 2007 age distribution was identical to the age distribution in 2000.

Labor force figures for 1960, 1970, 1980 come from WDI. We assumed the 1950 labor force data come from the same labor force participation rate, LF/population, as in 1960. Labor force figures for 1990 come from HDR. Labor force data for 2000 comes from WDR, and labor force data for 2007 comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. We assumed investment rates of 10 percent for 1980 and 1990 observations. The 2000 investment rate is from the intraperiod average investment rate taken from WDR (various years).

Enrollment rates in primary, secondary and tertiary schools for 1950-1970 come from Mitchell. come from WDR (various years). The 1980, 1990 rates come from WDI. The 2000 rates come from UNESCO. The 2007 rates come from WDR. We assumed that primary school and secondary school ages are 6-10 and 11-17

7 Sub-Saharan Africa

7.1 Angola (1950-2007)

Populations for 1950, 1960, 1970 come from Maa Table A1 p. 3. Populations for 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1950, 1960 come from Maa Table A2 p. 14. The age distributions for Angola for 1970, 1980, 1990 and 2000 comes from KF. We assumed the age distribution in 2007 was the same as the age distribution in 2000.

Labor force figures for 1960 come from Maa Table B1 p. 90. Labor force figures for 1950 assume the same labor force participation rate, LF/population, as in 1960. Labor force figures for Angola for 1970, 1980, 1990 and 2000 come from WDR (various years). Labor force figures for 2007 come from WDI.

Real output come from Maddison,except for 2007, which comes from WDR. Physical capital investment rates for 1980,1990, 2000, 2007 come from the intraperiod average investment rate from S & H online and WDR (various years). We assumed a 15.5 percent investment rate for years prior to 1980.

Enrollments in primary and secondary schools from 1940-1960 come from Maa Table I1 p. 973. To calculate enrollment rates, we assumed 6-9 are primary school age and 10-15 are secondary school age. Higher education enrollments for 1978-1992 come from Maa Table I2 p. 997. Prior to 1978 we assume an enrollment rate of 0 for higher education. For years 1970-1990, inclusive, we used WDI for primary and secondary schooling enrollment rates, but Mitchell for higher education enrollment rates. For 2000 we used WDR, and for 2007 we used the internet UIS Global Database.

7.2 Benin (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980 and 2000 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960. For 2007 we used WDI.

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 we assumed an investment rate of 12.5 percent.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 973. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments

are from Maa Table I2 p. 997. For 2007 we used WDR.

7.3 Botswana (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980 and 2000 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960. For 2007 we used WDI.

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 8.5 percent investment rate for 1950.

Enrollment rates for primary and secondary schools for 1970-2006 come from WDR (various years). We assumed the primary school and secondary school ages are 6-12 and 13-17. The tertiary school enrollments are from WDR (various years). For 1950 and 1960 we assumed 0 percent higher education enrollment rates, 25 and 50 percent primary school enrollment rates, and 1 and 3 percent secondary school enrollment rates, respectively.

7.4 Burkina Faso (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1970, 1980 and 2000 come from WDR (various years). For 1950 and 1960 we assumed the same labor force participation rates, LF/population, as in 1970. Labor force for 2007 comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. The 1971-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 5 percent investment rate for years prior to 1970.

Enrollments in primary and secondary schools for 1960-2000 come from Maa Table I1 p. 973. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 997. For 1950 we assumed the same enrollment rates as in 1960. For 2007 we used WDR.

7.5 Burundi (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1950, 1960, 1970, 1980 and 2000 come from WDR (various years). Labor force data for 2007 comes from WDI.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 5 percent investment rate.

Enrollments in primary and secondary schools for 1960-2000 come from Maa Table I1 p. 973. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 997. For 1950 we assumed the same enrollment rates as in 1960. For 2007 we used WDR.

7.6   Cameroon (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for Cameroon for 1980 and 1990 come from Maa Table B1 p. 90. The labor force for 1960 and 1970 come from the WDI. Labor force for 1950 comes from the labor force participation rate, LF/population, in 1960. The labor force for 2000 and 2007 come the WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1970-2006 come from the intraperiod average investment rate from S & H online and WDR (various years). For 1950 and 1960 we assumed a 7.5 percent investment rate.

Enrollments in primary and secondary schools from 1950-1993 come from Maa Table I1 p. 973. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-18 are secondary school age. Higher education enrollments for 1967-1990 come from Maa Table I2 p. 997. Prior to 1967 we assume an enrollment rate of .001 for higher education. For 2007 we used WDI.

7.7   Cape Verde (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1970, 1980, 1990, 2000 come from WDI (various years). For 1950 and 1960 we assumed the same labor force participation rate, LF/population, as in 1970. For 2007 we assumed the same labor force participation rate, LF/population, as in 2000.

Real output for 1950, 1960, 1970, 1980, and 1990 come from Maddison. The 2000 value comes from S & H. The 2007 value comes from the WDR. The 1970-2007 investment rates are the intraperiod average

investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 21 percent investment rate.

For 1950 we assumed about one half of the enrollment rate as for 1960. For 1960 we used UNESCO. Enrollments in primary and secondary schools for 1970-1990 come WDI. For 2000 we used UNESCO. For 2007 we used UIS Global Database. We assumed the primary school and secondary school ages are 6-11 and 12-16. The tertiary school enrollments for 2007 are from UIS Global Database. For earlier years we halved the enrollment rate of the following observation.

7.8   Central African Republic (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001.* Population for 2007 comes from *Time Almanac 2008.*

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1960, 1970, 1980, 2000, and 2007 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 10.5 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 974. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 997. For 2007 we used WDR.

7.9   Chad (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001.* Population for 2007 comes from *Time Almanac 2008.*

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960-1990 come from WDI. For 1950 we assumed the same labor force participation rate, LF/population, as in 1960. Labor force figures for 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 we assumed a 5 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 974. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 997. For 2007 we used WDR.

7.10   Comoros (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1980-2000 come from WDI. For 1950, 1960 and 1970 we assumed the same labor force participation rate, LF/population, as in 1980. Labor force figures for 2007 assumes the same labor force participation rate, LF/population, as in 2000.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960, we assumed 13.5 percent investment rates.

Enrollments in primary and secondary schools for 1960-2000 come from WDR. For 2007 we used UIS Global Database. For 1950 we assumed 5 percent elementary school enrollment rate, and .5 percent secondary school enrollment rate, and 0 higher education. We assumed the primary school and secondary school ages are 6-11 and 12-18.

7.11   Congo (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960-1990 come from WDI. For 1950 we assumed the same labor force participation rate, LF/population, as in 1960. Labor force figures for 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. The 1971-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed an 11 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 974. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 997. For 2007 we used WDR.

7.12   Cote de Ivoire (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960-1990 come from WDI. For 1950 we assumed the same labor force partici-pation rate, LF/population, as in 1960. Labor force figures for 2000 and 2007 come from WDR (various

years).

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 12.5 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 975. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 998. For 2007 we used WDR.

7.13 Djibouti (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from *Time Almanac 2003*. For 1950, 1960, 1970 and 1980 we assumed the same labor force participation rate, LF/population, as in 1990. For 2000 we used WDR. Labor force figures for 2007 assumes the same labor force participation rate, LF/population, as in 2000.

Real output come from Maddison, except for 2007, which comes from WDR. The 1971-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960, 1970 we assumed 6 percent investment rate.

Enrollments in primary and secondary schools for 1970-1990 come from WDI. For 2000 we used UN-ESCO. For 2007 we used UIS Global Database. For 1950 we assumed 10 percent elementary school enrollment rate, and 1 percent secondary school enrollment rate, and 0 higher education. For 1960 we assumed a 25 percent elementary school enrollment rate, and 2 percent secondary school enrollment rate. We assumed the primary school and secondary school ages are 6-11 and 12-18.

7.14 Equitorial Guinea (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960-2000 come from WDI. For 1950 we assumed the average labor force participation rate, LF/population, for 1960, 1970 and 1980. Labor force figures for 2007 assumes the same labor force participation rate, LF/population, as in 2000.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we used a 4 percent investment rate.

Enrollments in primary, secondary schools and higher education for 1970-2000 come from WDI. For 1960 we used the average enrollment rates for Nigeria, Gabon, Cameroon, Congo and the Central African

Republic. For 1950 we assumed one half the enrollment rate of 1960. For 2007 we used UIS Global Database. We assumed the primary school and secondary school ages are 6-11 and 12-17.

7.15   Eritrea (1990-2007)

Populations for 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1990 comes from KF, we used Ethiopias age distribution. We assumed the same age distribution in 2007 and 2000 as in 1990.

Labor force figures for 1990 come from WDI. Labor force figures for 2000 come from CIA Factbook. Labor force figures for 2007 come from WDI.

Output comes from Maddison, except for 2007, which comes from WDR. The 1990-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1990 we assumed an investment rate of 17.5 percent.

Enrollments in primary, secondary schools and higher education for 1990 come from Ethiopia. For 2000 and 2007 we used WDI. We assumed the primary school and secondary school ages are 6-11 and 12-17.

7.16   Ethiopia (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from KF. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1980 and 2000, 2007 come from WDR (various years). The labor force for 1950 comes from the 1960 labor force participation rate. The labor force for 1970 and 1990 come from interpolation of the 1960, 1980 and 2000 values.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1960-2006 come from the intraperiod average investment rate from S & H online and WDR (various years). For 1950 we assumed an investment rate of 4 percent.

Enrollments in primary and secondary schools from 1948-1993 come from Maa Table I1 pp. 968 and 974. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1955-1991 come from Maa Table I2 p. 998. Prior to 1955 we assume an enrollment rate of 0 for higher education. For 2000 and 2007 we used WDR.

7.17   Gabon (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from WDI. Labor force figures for 1960, 1970, 1980, 2000 and 2007 come from WDR (various years). For 1950 we used the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 16.5 percent investment rate in 1950 and 1960.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 974. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 998. For 2007 we used WDR.

7.18   Gambia, The (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960-1990 come from WDI. For 1950 we assumed the same labor force participation rate, LF/population, as in 1960. Labor force figures for 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 6.75 percent investment rate.

Enrollment rates in primary and secondary schools for 1960-2000 come from WDR (various years). We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from WDR (various years). For 1950 we assumed a 10 percent elementary school enrollment rate, 1 percent secondary school enrollment rate and 0 percent higher education enrollment rate. For 2007 we used WDR.

7.19   Ghana (1870-2007)

Populations for 1870, 1880, 1890, 1900, 1913, 1920, 1830, 1940, 1950, 1960, 1970, 1980, 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 15. The age distributions for 1870, 1880, 1890, 1900, 1913, 1920, 1830, 1940, and 1950 are assumed to be identical to the age distribution in 1960. The age distributions for Ghana for 2000 and 2006 are assumed to be identical to the 1990 age distribution.

Labor force figures for 1950, 1960, 1970, 1980 and 1990 come from WDI (various years). Labor force figures for Ghana before 1950 come from labor force participation rate for 1950. The 2000 and 2007 labor force figures come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1959-1986 and

1994-1998 and average gross capital formation and income for 1987-1993 from Maa Table J1, p. 1014 and WDR (various years). For years prior to 1960 we assumed a 12.5 percent investment rate. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1903-1993 come from M (2003) Table I1 pp. 969 and 975. For 1870, 1880 and 1890 primary enrollment rates, we assume 2 percent, 2 percent and 3 percent, respectively. For secondary enrollment rates for these years we assumed 0, .1 percent and .1 percent, respectively. For higher education enrollment rates, for these years, we assumed 0. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1949-1990 come from Maa Table I2 p. 998. We used the WDR for 2007.

7.20   Guinea (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1950, 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 5 percent investment rate.

Enrollments in primary and secondary schools for 1960-2000 come from Maa Table I1 p. 975. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 998 and WDR (various years). For 1950 we assumed the same enrollment rates as in 1960. For 2007 we used WDR.

7.21   Guinea-Bissau (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). For 1950 and 1960 we assumed the same labor force participation rate, LF/population, as in 1970.

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 14.65 percent investment rate.

Enrollment rates for primary and secondary schools for 1960-2007 come from WDR (various years). We assumed the primary school and secondary school ages are 6-11 and 12-16. The tertiary school enrollments are from WDR (various years). For 1950 we assumed the same enrollment rates as in 1960.

7.22   Kenya (1950-2007)

Population for 1950 and 1990 come from Maddison. Populations for 1962, 1969 and 1979 come from Maa Table A2 p. 15. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1962, 1969, 1979 and 1990 come from Maa Table A2 p. 15. The age distribution in 1950 is assumed to be the same as the age distribution in 1962. The age distribution for Kenya for 2000 comes from DK. The age distribution for 2007 is assumed to be the same as in 2000.

Labor force figures for 1962, 1969 and 1979 come from WDI (various years). The labor force figures for 1990, 2000 and 2007 come from WDR. The 1950 labor force assumes the same labor force participation rate, LF/population, as in 1962.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1964-1988 from Maa Table J1, p. 1015 and for 1994-1998 from WDR (various years). For the 1962 observation we used the average gross capital formation and income for 1957-1961 from Maa Table J1 p. 1015. For 1950 we assumed a 12.5 percent investment rate. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1935-1993 come from Maa Table I1 pp. 969 and 975. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1960-1992 come from Maa Table I2 p. 998. For 2000 and 2007 we used WDR.

7.23   Lesotho (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1950, 1960, 1970, 1980, 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed an investment rate of 7.5 percent.

Enrollment rates in primary and secondary schools for 1960-2007 come from WDR (various years). We assumed the primary school and secondary school ages are 6-12 and 13-17. The tertiary school enrollments are from WDR (various years). For 1950 we assumed an elementary school enrollment rate one half of the 1960 enrollment rate, and the same enrollment rates in secondary school and higher education as in 1960.

7.24   Liberia (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990 and 2000 come WDI. Labor force figures for 1950 come from the same labor force participation rates, LF/population, as in 1960. The 2007 labor force data come from the WDR.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average real gross physical capital and real income for 1971-1989 come from Maa Table J1 1016 and for 1994-1998 from WDR (various years). We assumed an investment rate of 15.25 for 1950 and 1960, 1970. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1950-1986 come from Maa Table I1 p. 975. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1973-1993 come from Maa Table I2 p. 998. Prior to 1973 we assume an enrollment rates of .0001 and .0005 for higher education. For 1990, 2000 and 2007 we used WDR.

7.25   Madagascar (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1971-1990 investment rates are the intraperiod average investment rate taken from WDI, and the 2000, 2007 investment rates are the intraperiod average investment rates taken from S & H online. For 1950, 1960 and 1970 we assumed a 5 percent investment rate.

Enrollment rates for primary and secondary schools for 1950-2000 come from Maa Table I1 p. 976. We assumed the primary school and secondary school ages are 6-10 and 11-17. The tertiary school enrollments are from Maa Table I2 p. 998. For 2007 we used WDR.

7.26   Malawi (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1990 come from Maa Table B1 p. 92. The 1980, 2000, 2007 labor force figures come from WDR. The 1950, 1960, 1970 labor force figures come from the 1980 labor force participation rate.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average real gross physical capital and real income for 1955-1998 from Maa Table J1 p. 1017 and WDR (various years). For 1950 we assumed the investment rate of 10 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1945-1993 come from Maa Table I1 pp. 969 and 976. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1966-1990 come from Maa Table I2 p. 998. Prior to 1966 we assume an enrollment rates of .0001 and .0005 for higher education. For 2007 we used WDR.

7.27 Mali (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2000 investment rates are the intraperiod average investment rate taken from WDI. The 2007 investment rate is the average investment rate for 2000-2006 from S & H. We assumed a 5 percent investment rate for 1950 and 1960.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 976. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from Maa Table I2 p. 999. We used WDR for 2007.

7.28 Mauritania (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). The 2007 investment rate is the average investment rate for 2000-2006 from S & H. We assumed a 21.33 percent investment rate in 1950 and 1960.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 976. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from Maa Table I2 p. 999. For 2007 we used WDR.

7.29   Mauritius (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1962, 1972 and 1990 come from Maa Table B1 p. 92. For 1950 we used the 1960 labor force participation rate, LF/population. Labor force figures for Mauritius for 1980 are interpolated from 1972 and 1990 values. The labor force for 2000 comes from the average labor force participation rate of 1980 and 1990. For 2007 labor force we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. For 1960 we used the average investment rate for 1951-2006 from S & H. For 1950 we assumed a 13 percent investment rate.

Enrollments in primary and secondary schools from 1950-1993 come from Maa Table I1 p. 976. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-18 are secondary school age. Higher education enrollments for 1967-1991 come from Maa Table I2 p. 999. Prior to 1967 we assume an enrollment rates of .005 for higher education. For 2000 and 2007 we used WDR.

7.30   Mozambique (1950-2007)

Population for 1950 and 1990 come from Maddsion. Populations for 1960, 1970 and 1980 come from Maa Table A1 p. 4. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 16. The age distribution in 1950 is assumed to be identical to the age distribution in 1960. The age distribution for 1990 is interpolated from 1980 and 1995 values. The age distribution for Mozambique for 2000 comes from KF. The age distribution for 2007 is assumed identical to the age distribution in 2000.

Labor force figures for 1970 and 1980 come from Maa Table B1 p. 93. The labor force data for 1960, 1990, 2000 and 2007 come from WDR. The labor force data for 1950 comes from the labor force participation rate, LF/population, of 1960.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1970-2006 come from the intraperiod average investment rate from S & H online and WDR (various years). We assumed an investment rate of 5 percent for 1950 and 1960.

Enrollments in primary and secondary schools from 1950-1992 come from Maa Table I1 p. 977. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-17 are secondary school age. Higher education enrollments for 1976-1992 come from Maa Table I2 p. 999. Prior to 1976 we assume an enrollment rate of 0 for higher education. For 2000 and 2007 we used WDR.

7.31   Namibia (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007

as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed an investment rate of 18.2 percent.

Enrollment rates for primary and secondary schools for 1990-2007 come from WDR (various years). We assumed the primary school and secondary school ages are 6-12 and 13-17. The tertiary school enrollments are from WDR (various years). For 1950-1980 we assumed enrollment rates equal to half the comparable values in South Africa.

7.32   Niger (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed an investment rate of 8.5 percent.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 977. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 999. For 2007 we used WDR.

7.33   Nigeria (1950-2007)

Populations for 1950, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*. Population for 1963 comes from Maa Table A2 p. 17

The age distribution for 1963 come from Maa Table A2 p. 17. We assumed the 1950 age distribution is identical to the 1963 age distribution. The age distributions for Nigeria for 1970, 1980, 1990 and 2000 come from DK. We assumed the 2007 age distribution is identical to the 2000 age distribution.

Labor force figures for Nigeria for 1950, 1960, 1970 1980, 1990, 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1951-1998 from Maa Table J1, p. 1019 and WDR (various years). For years prior to 1963 we assumed an investment rate of 9.5 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1944-1993 come from Maa Table I1 p. 970 and 977. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1964-1993 come from Maa Table I2 p. 999. We used .0005 for the higher education enrollment rate for 1952. For 2000 and 2007 we used WDI.

7.34   Reunion (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1970, 1980 come from government website, http://www.census.gov/cgi-bin/ipc/idbsprd. The 1950 and 1960 labor force figures assumes the average labor force participation rate, LF/population, of 1970 and 1980. For 1990, 2000 and 2007 we used the same labor force participation rate, LF/population, as in 1980.

Real output prior to 2000 come from Maddison. The 2000 figure comes from WDR. The 2007 figure comes from the CIA Factbook. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1970-1990 from S & H online and WDR (various years). For 1950 and 1960 we assumed an investment rate of 31 percent. For 2000 and 2007 we assumed a 15 percent investment rate.

Enrollments in primary and secondary schools from 1960-2000 come from UNESCO. For 1950 we assumed a 50 percent enrollment rate for primary school, a 10 percent enrollment rate in secondary school and a .1 percent enrollment rate in higher education. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1967-1990 come from Maa Table I2 p. 999. For 2007 we assumed the same enrollment rates as in 2000.

7.35   Rwanda (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1970-2006 from S & H online and WDR (various years). For 1950 and 1960 we assumed an investment rate of 5 percent.

Enrollments in primary and secondary schools from 1960-1991 come from Maa Table I1 p. 977. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-19 are secondary school age. Higher education enrollments for 1967-1990 come from Maa Table I2 p. 999. We used 0 for the higher

education enrollment rate prior to 1967. For 1950 we assumed a 20 percent enrollment rate in elementary school, a .5 percent enrollment rate in secondary school and no enrollment in higher education. For 2000 and 2007 we used WDR.

7.36   Senegal (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1968-1969 and the intraperiod average gross real capital formation and real income for 1970-1998 from Maa Table J1, p. 1020 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H. For 1960 and 1950 we assumed an investment rate of 5 percent.

Enrollments in primary and secondary schools from 1950-1992 come from Maa Table I1 p. 977. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-18 are secondary school age. Higher education enrollments for 1949-1993 come from Maa Table I2 p. 999. For 2000 and 2007 we used WDR.

7.37   Seychelles (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 come from government website, http://www.census.gov/cgi-bin/ipc/idbsprd. The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 1990, 2000 and 2007 we used the same labor force participation rate, LF/population, as in 1980.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1970-2000 from S & H online and WDI (various years). For 1950 and 1960 we assumed an investment rate of 22.5 percent. For 2007 we assumed a 16.7 percent investment rate.

Enrollments in primary and secondary schools from 1960-1990 come from UNESCO. For 1950 we assumed a 40 percent enrollment rate for primary school, a 10 percent enrollment rate in secondary school and a 0 percent enrollment rate in higher education. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1950-2000 we

assumed .1 percent, .5 percent, 1 percent, 2 percent, 4 percent, respectively. For 2007 we used UIS Global Database.

7.38   Sierra Leone (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 7.5 percent investment rate in 1950 and 1960.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 977. We assumed the primary school and secondary school ages are 6-12 and 13-19. The tertiary school enrollments are from Maa Table I2 p. 999. For 2007 we used WDR.

7.39   Somalia (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output for 1950, 1960, 1970, 1980, 1990 and 2000 come from Maddison. For 2007 we used the CIA Factbook. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960, 1970 we assumed an investment rate of 22 percent.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 978. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 1000. For 2007 we used WDR.

7.40   South Africa (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1920, 1930, 1940 come from McEvedy and Jones. Population for 1951 is geometrically interpolated from 1946 and 1960 from Maa Table A2 p. 17. Populations for 1913, 1920, 1930, 1940, 1950, 1960, 1970 and 1980 comes from Maa Table A2 p. 17. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1951 is geometrically interpolated from 1946 and 1960 from Maa Table A2 p. 17. The age distributions for South Africa for 1960, 1970, 1980 and 1990 come from Maa Table A2 p. 17. We used the age distribution in 1951 for all years prior to 1951. The age distribution for South Africa 2000 comes from DK. We assumed the age distribution for 2007 was identical to the age distribution in 2000.

Labor force figures for South Africa 1946, 1951, 1960, 1970 and 1980 from Maa Table B1 p. 93. Labor force figures for South Africa for 1990, 2000 and 2006 come from WDR (various years). For year prior to 1946, we used the labor force participation rate, LF/population, of 1946.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1953-1992, 1994-1998 and the intraperiod average gross capital formation and income from 1950-1952 from Maa Table J1, p. 1021 and WDR (various years). We used .14 for the investment rate for year prior to 1951. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1914-1993 come from Maa Table I1 pp. 971 and 978. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Prior to 1960 we assumed that 75 percent of European students were primary students, 80 percent of Colored and Asian students were primary students and 95 percent of Native students were primary students. From 1960 onward we assumed that two thirds of European students were primary students, 75 percent of Colored and Asian students were primary students and 90 percent of Native students were primary students. For 1980 and 1988 we used 99 percent enrollment rate for primary school and 25 percent and 50 percent for secondary enrollment rates. For years prior to 1913, 1820-1900, we assumed that the primary enrollment rate was 75 percent of the succeeding decade's primary enrollment rate. For years prior to 1913, 1820-1840 we assumed 0 enrollment rate in secondary school, and for 1850-1900 we assumed each decade's secondary enrollment rate was 75 percent of the succeeding decade's secondary enrollment rate. For years prior to 1913, 1820-1840 we assumed 0 enrollment rate in high education, and for 1850-1900 we assumed each decade's higher education enrollment rate was 75 percent of the succeeding decade's higher education enrollment rate. These match our data in 1970 and 1996. Higher education enrollments for 1934-1993 come from Maa Table I2 pp. 996 and 1000. For 2000 and 2007 we used WDR.

7.41   Sudan (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960 and 1970 we assumed a 14.75 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 978. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments

are from Maa Table I2 p. 1000. For 2007 we used WDR.

7.42   Swaziland (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960 and 1970 we assumed 17 percent investment rates.

Enrollments in primary and secondary schools for 1950-2006 we used WDR. We assumed the primary school and secondary school ages are 6-12 and 13-17.

7.43   Tanzania (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 9 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 978. We assumed the primary school and secondary school ages are 6-12 and 13-18. The tertiary school enrollments are from Maa Table I2 p. 1000. For 2007 we used WDR.

7.44   Togo (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 and 1960 we assumed a 19.15 percent investment rate.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 978. We assumed the primary school and secondary school ages are 6-11 and 12-18. The tertiary school enrollments are from Maa Table I2 p. 1000. For 2007 we used WDR.

7.45 Uganda (1950-2007)

Population for 1950 and 1990 come from Maddison. Populations for 1959, 1969, 1980 come from Maa Table A1 p. 6. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1959, 1969 and 1990 come from Maa Table A2 p. 18. The 1990 value is interpolated from the 1969 and 1991 values. The age distribution in 1950 is assumed to be identical to the age distribution in 1959. The age distributions for Uganda for 1980 and 2000 come from KF. The age distribution for 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1960, 1970, 1980 and 1990 come from WDI (various years). The 1950 labor force figures assumes the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come for 1959-2007 from the intraperiod average investment rate from S & H online and WDR (various years). We assumed a 22.25 percent investment rate for years prior to 1959.

Enrollments in primary and secondary schools from 1950-1993 come from Maa Table I1 p. 979. To calculate enrollment rates, we assumed 6-12 are primary school age and 13-18 are secondary school age. Higher education enrollments for 1965-1992 come from Maa Table I2 p. 1000. Prior to 1965 we assume an enrollment rate of 0 for higher education. For 2000 and 2007 we used WDR.

7.46 Zaire (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). The labor force for 1950 comes from the labor force participation rate in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950 we assumed an investment rate of 10 percent.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 979. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from Maa Table I2 p. 1000. For 2007 we used WDR.

7.47   Zambia (1950-2007)

Population for 1950 comes from Maa Table A1 p. 6. Populations for 1960 and 1990 come from S & H online. Populations for 1969 and 1980 comes from Maa Table A2 p. 18. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1969 and 1980 come from Maa Table B1 p. 94. Labor force figure for 1950 comes from the labor force participation rate in 1960. The 1960, 1990, 2000 and 2007 labor force data come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1954-1990 and average intraperiod gross capital formation and income for 1950-1953 and 1991-1998 from Maa Table K1, p. 1024 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H. We assumed a 20.5 percent investment rate in 1950.

Enrollments in primary and secondary schools from 1940-1993 come from Maa Table I1 pp. 972 and 979. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1967-1990 come from Maa Table I2 p. 1000. For 1950 and 1960 we used higher education enrollment rates of .0005 and .005. For 2000 and 2007 we used WDR.

7.48   Zimbabwe (1950-2007)

Population for 1950 comes from Maa Table A1 p. 6. Populations for 1960 and 1990 come from S & H online. Populations for 1969 and 1980 comes from Maa Table A2 p. 18. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1969, 1980 and 1988 come from Maa Table A2 p. 18. The 1980 and 1990 age distributions are interpolated from the 1969, 1982 and 1994 values. The age distributions for 1960 and 2000 are from DK. The age distribution in 1950 is assume to be identical to the age distribution in 1960. The age distribution for 2007 is assumed to be identical to the age distribution in 2000.

The labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). Labor force for 1950 comes from extrapolation of the 1960 labor force participation rate.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1954-2007from S & H. For 1950 we assumed an investment rate of 25 percent.

Enrollments in primary and secondary schools from 1940-1993 come from Maa Table I1 pp. 972 and 979. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1965-1992 come from Maa Table I2 p. 1000. We used higher education enrollment rates of .0005 and .001 for the period prior to 1965. For 2000 and 2007 we used WDR.

8 Latin America

8.1 Argentina (1870-2007)

Populations for 1870, 1880, 1895, 1914, 1947, 1960, 1970, 1980 and 1991 come from Mam Table A1 p. 7. Population for 1922 and 1935 are geometrically interpolated from 1914 and 1947. Population for 2000 comes from *Time Almanac 2001.* for 2007 comes from *Time Almanac 2008.*

The age distributions of the population for 1895, 1914, 1947, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 24. The age distribution for 2000 comes from DK. We assumed the age distribution in 1870, 1880 were the same as the age distribution in 1895. We assumed the age distribution in 2007 is the same as the age distribution in 2000.

Labor force figures for 1895, 1914, 1947, 1960, 1970 and 1980 come from Mam Table B1 p. 108. We assumed the 1870, 1880 labor forces have the same labor force participation rate, LF/population, as the average of 1895 and 1914. Labor force data for Argentina for 1990, 2000 and 2007 are from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Prior to 1915 we used .09 for physical capital investment rates. Physical capital investment rates come the intraperiod average gross real capital formation and real income for (1900-1998) from Mam Table J1, pp. 775, 776 and 782 and WDR (various years). We assumed an investment rate of .18 for years prior to 1896. For 2007 we used the average investment rate for 2000-2006 from S & H.

We used Lindert for enrollment rates in primary and secondary school for 1870. We assumed a .1 percent enrollment rate in higher education in 1870. Enrollments in primary and secondary school from 1882, 1892-1993 come from Mam Table I1 pp. 735, 736, 738, 742 and 746. To calculate enrollment rates, we assumed 6-12 are primary school age and 13-17 are secondary school age. Higher education enrollments for 1885-1992 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.2 Bahamas (1960-2007)

Populations for 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001.* Population for 2007 comes from *Time Almanac 2008.*

The age distributions of the population for 1960, 1970, 1980 and 1990 come from KF. We assumed the same age distribution for 2007 and 2000 as in 1990.

Labor force figures for 1960, 1970, 1980, 1990, 2000 come from WDR. Labor force data for 2007 come from CIA Factbook.

Real GNP comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1980-2006 come from S & H. For 1960 and 1970 we assumed 15.5 percent investment rates.

Enrollment rates come from WDR for 1960, 1970, 1980, 1990 and 2000. For 2007 we used UIS Global Database. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age.

8.3 Barbados (1960-2007)

Populations for 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001.* Population for 2007 comes from *Time Almanac 2008.*

The age distributions of the population for 1960, 1970, 1980 and 1990 come from KF. We assumed the same age distribution for 2007 and 2000 as in 1990.

Labor force figures for 1960, 1970, 1980, 1990, 2000 come from WDR. Labor force data for 2007 come from CIA Factbook.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1970-2006 come from S & H. For 1960 we used the US investment rate.

Enrollment rates come from WDR for 1960, 1970, 1980, 1990 and 2000. For 2007 we used UIS Global Database. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age.

8.4   Belize (1960-2007)

Populations for 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1960, 1970, 1980 and 1990 come from KF. We assumed the same age distribution for 2007 and 2000 as in 1990.

Labor force figures for 1960, 1970, 1980, 1990, 2000 come from WDR. Labor force data for 2007 come from CIA Factbook.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1990-2006 come from S & H. For 1960, 1970 and 1980 we used 14.5 percent investment rates.

Enrollment rates come from WDR for 1960, 1970, 1980, 1990 and 2000. For 2007 we used UIS Global Database. To calculate enrollment rates, we assumed 6-12 are primary school age and 13-17 are secondary school age.

8.5   Bolivia (1880-2007)

Populations for 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950 and 1976 come from Mam Table A1 p. 7. Population for 1962 is geometrically interpolated. Population for 1980 and 1990 comes from S & H (1991). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1976 and 1990 come from Mam Table A2 p. 24. The age distribution for 1962 is geometrically interpolated. The age distribution for years prior to 1950 are assumed to be identical to 1950. The age distribution for 1980 and 2000 comes from DK (1994). We assumed the same age distribution for 2007 as in 2000.

Labor force figures for 1950, 1976 and 1991 come from Mam Table B1 p. 108. Labor force data for years prior to 1950 are assumed to come from the same labor force participation rate, LF/population, as in 1950. Labor force data for 1962 is geometrically interpolated. Labor force data for Bolivia for 1980 is from WDR. Labor force data for 2000 come from DK. Labor force data for 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1950-1998 from Mam Table J1, p. 776 and 782 and WDR (various years). For years prior to 1941 we assumed a 17 percent investment rate. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1901, 1923, 1950-1993 come from Mam Table I1 pp. 736, 738, 742 and 746. For 1880 and 1888, we used Lindert. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1901-1990 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.6 Brazil (1820-2007)

Population for 1820, 1830, 1840, 1850 and 1860 come from Maddison. Populations for 1872, 1889, 1900, 1920, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A1 p. 7. Population for 1906, 1928 are geometrically interpolated. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1872, 1889, 1900, 1920, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 25. We assumed the age distributions in 1820, 1830, 1840, 1850 and 1860 are identical to the age distribution in 1872. The age distribution for Brazil for 2000 comes from DK. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1928, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table B1 p. 108. We assumed the same labor force participation rate in 1928, LF/population, holds for 1820, 1830, 1840, 1850, 1860, 1872, 1889, 1906 and 1920. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1948-1998 from Mam Table J1, pp. 777 and 782 and WDR (various years). For years prior to 1948 we assumed a 9 percent investment rate. For 2007 we used WDR.

Enrollment rates for 1850 and 1860 use Morris and Adelman. For years prior to 1850, we assumed the same enrollment rates as in 1850 for primary, secondary and higher education. Enrollments in primary and secondary school from 1871, 1906, 1927-1993 come from Mam Table I1 pp. 735, 736, 738, 742 and 746. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-16 are secondary school age. Higher education enrollments for 1907-1993 come from Mam Table I2 pp. 755, 756 and 757. Prior to 1907 we used higher education enrollment rates of 0 and .001. For 2000 and 2007 we used WDR.

8.7 Chile (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1895, 1907, 1920, 1930, 1940, 1952, 1960, 1970, 1980 and 1990 come from Mam Table A1 p. 7. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1895, 1907, 1920, 1930, 1940, 1952, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 26. For years prior to 1895, we assumed the 1895 age distribution. The age distribution for 1980 and 1990 are interpolated using 1970 and 1982 and 1991 values. The age distribution for 2000 comes from DK. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1920, 1930, 1940, 1952, 1960, 1970, 1980 and 1990 come from Mam Table B1 p. 109. Labor force for years prior to 1920 are extrapolated using the labor force participation rate for 1920. Labor force data for 1980 are interpolated from 1970 and 1982 data. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. For years prior to 1870 we assumed an investment rate of .07. For years between 1870 and prior to 1941 we used .155 for physical capital investment rates. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1940-1998 from Mam Table J1, pp. 777 and 782 and WDR (various years).

Enrollments in primary and secondary school from 1880-1993 come from Mam Table I1 pp. 735, 736, 739, 743 and 747. Enrollment rates in primary school from 1820 to 1870 are assumed to be 7.5 percent in 1820 and 15 percent for all other years. Secondary enrollment rates from 1820 to 1870 are assumed to be1.5 percent for all years. Higher education enrollment rates from 1820 to 1870 are assumed to be .05 percent for all years. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1886-1993 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.8   Colombia (1890-2006)

Populations for 1890, 1900, 1908, 1917, 1938, 1951, 1964 and 1973 come from Mam Table A1 p. 7. Population for 1980 and 1990 comes from S & H (1991). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1917, 1938, 1951, 1964, 1973, 1980 and 1990 come from Mam Table A2 p. 27. We assumed the age distribution prior to 1917 were identical to the age distribution in 1917. The age distribution for Colombia for 1980 and 1990 are interpolations using 1973, 1985 and 1991 values. The age distribution for 2000 comes from DK. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1938, 1951, 1964 and 1970 come from M(1983) Table B1 p. 109. Labor force for 1890, 1900 1908 and 1917 are extrapolated from the labor force participation rate in 1938. Labor force data for Colombia for 1980, 1990, 2000 and 2007 are from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. Prior to 1938 we used .10 for physical capital investment rate. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1935-1998 from Mam Table J1, pp. 775, 778 and 783 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1900-1993 come from Mam Table I1 pp. 739, 743 and 747. For 1890 we used Lindert. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-16 are secondary school age. Higher education enrollments for 1914-1991 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.9   Costa Rica (1920-2007)

Population for 1920 comes from Maddison. Populations for 1950, 1963, 1973, 1980, 1990 come from Mam Table A2 p. 12. Population for 1980 is interpolated using 1973 and 1990 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1963, 1973, 1980 and 1990 come from Mam Table A2 p. 12. We assumed the age distribution for 1920 was identical to the age distribution in 1950. The age distribution for Costa Rica for 1980 is interpolated from the 1973 and 1990 values. The age distribution for 2000 comes from KF. We assumed the age distribution in 2006 is identical to the age distribution in 2000.

Labor force figures for 1950, 1963, 1973, 1980 and 1990 come from Mam Table B1 p. 102. We assumed the labor force participation rate in 1920 was identical to the labor force participation rate, LF/population, in 1950. Labor force data for 1980, 1990 are interpolations from 1973, 1984 and 1993. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1966-1998 from Mam Table J1, p. 767 and WDR (various years). For years prior to 1963 we used an investment rate of .185. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1910-1993 come from Mam Table J1 pp. 719, 721, 725 and 730. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1951-1993 are from Mam Table I2 pp. 752 and 754. For 2000 and 2007 we used WDR.

8.10 Cuba (1930-2007)

Populations for 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1960, 1970, 1980 and 1990 come from KF. We assumed the age distributions for 1930 and 1940 are identical to the age distribution in 1950. We assumed the same age distribution for 2007 and 2000 as in 1990.

Labor force figures for 1920 and 1940 come from Mitchell. We interpolated between these years to get an estimate of labor force for 1930. The labor force figures for 1960, 1970, 1980, 1990 come from WDI. We interpolated between 1940 and 1960 labor force to get an estimate for 1950. Labor force data for 2000 and 2007 come from WDR.

Real output prior to 2000 come from Maddison. The 2000 real output figure comes from S & H. The 2007 value comes from the CIA Factbook. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1960-2006 come from Mitchell and S & H. For 1930 we used an investment rate of 16 percent, and for 1940 and 1950 we used 15 percent investment rates.

For enrollment rates in 1930 and 1940 we used Astorga, et al. For 1950 we used Mitchell. Enrollment rates come from WDR for 1960, 1970, 1980, 1990 come from WDI. For 2000 we used UNESCO. For 2007 we used WDR. To calculate enrollment rates, we assumed 6-10 are primary school age and 11-16 are secondary school age.

8.11 Dominican Republic (1950-2007)

Populations for 1950, 1960, 1970, 1980, 1990 come from Mam Table A2 p. 13. Population for 1980 is interpolated using the 1970 and 1990 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 13. The age distribution for Dominican Republic for 1980 is interpolated using the 1970 and 1990 values. The age distribution for 2000 comes from KF. The age distribution in 2007 is assumed to be identical to the age distribution in 2000.

Labor force figures for 1950, 1960, 1970, 1981 come from Mam Table B1 p. 103. Labor force data for 1990, 2000 and 2007 are from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1950-1998 from Mam Table J1, p. 768 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1935-1993 come from Mam Table I1 pp. 721, 726 and 731. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1935-1985 are from Table I2 pp. 752 and 754. For 2000 and 2007 we used enrollment rates from WDR (various years).

8.12 Ecuador (1940-2007)

Populations for 1940, 1950, 1962, 1974, 1980 and 1988 come from Mam Table A1 p. 7. Population for 1980 and 1990 are from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1962, 1974, 1980 and 1990 come from Mam Table A2 p. 27. We assumed the age distribution in 1940 was identical to the age distribution in 1950. The age distribution for Ecuador for 1980 and 1990 are interpolations using 1974, 1982 and 1991. The age distribution for 2000 comes from KF. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1950, 1962, 1974, 1980 and 1990 come from Mam Table B1 p. 109. The 1940 labor force is assumed to have the identical labor force participation rate, LF/population, as in 1950. Labor force data for Ecuador for 1980 are interpolated from 1974 and 1982 values. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. For 1940 and 1950 we used the value of .09 for physical capital investment. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1960-1998 from Mam Table J1, pp. 778 and 783 and WDR (various years). For years prior to 1962 we used an investment rate of 20 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1928-1992 come from Mam Table I1 pp. 739, 743 and 747. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1928-1989 are from Mam Table I2 pp. 756 and 757. For 2000 and 2007 we used WDR.

8.13 El Salvador (1920-2007)

Populations for 1920, 1930, 1950, 1961, 1971, 1981 and 1991 come from Mam Table A2 p. 13. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1930, 1950, 1961, 1971, 1981 and 1991 come from Mam Table A2 p. 13. The age distribution in 1920 is assumed to be identical to the 1930 age distribution. The age distribution for 2000 comes from KF. We assumed the 2007 age distribution is identical to the age distribution in 2000.

Labor force figures for 1950, 1961, 1971 come from Mam Table B1 p. 103. The 1920 and 1930 labor force data come from the average labor force participation rates, LF/population, for 1950, 1961 and 1971. Labor force data for El Salvador for 1980, 1991, 2000 and 2007 are from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1951-1998 from Mam Table J1, p. 769 and WDR (various years). We assumed the 1951 investment rate for 1930 and 1951. For 1920 we assumed an investment rate of 15.5 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

For 1920 and 1930 we used information from Astorga, Berges and Fitzgerald. Enrollments in primary and secondary school from 1942-1993 come from Mam Table I1 pp. 722, 726 and 731. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1944-1991 come from Mam Table I2 pp. 752 and 754. For 2000 and 2007 we used WDR.

8.14 Guatemala (1921-2007)

Populations for 1921, 1940, 1950, 1964, 1973, 1980 and 1991 come from Mam Table A2 p. 14. Population for 1980 is interpolated using 1973, 1981 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1921, 1940, 1950, 1964, 1973, 1980 and 1991 come from Mam Table A2 p. 14. The age distribution for Guatemala for 1980 is interpolated using 1973, 1981 values. The age distribution for 2000 comes from KF. We assumed that the 2007 age distribution is identical to the 2000 age distribution.

Labor force figures for 1950, 1964, 1973, 1981 come from Mam Table B1 p. 103. The 1921 and 1940 labor force data comes from the 1950 labor force participation rate, LF/population. Labor force data for Guatemala for 1991, 2000 and 2007 are from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1946-1998 from Mam Table J1, p. 769 and WDR (various years). We assumed the investment rate of 8.5 percent for 1921 and 1940. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1920-1993 come from Mam Table I1 pp. 722, 726 and 731. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1950-1986 are from Mam Table I2 pp. 752 and 754. Higher education enrollment rates for 1988 and 1996 are from WDR (various years). F0r 2000 and 2007 we used WDR.

8.15 Guyana (1946-2007)

Populations for 1946, 1960, 1970, 1980 and 1990 come from Mam Table A1 p. 7. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1946, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 28. The age distribution for 2000 comes from KF. We assumed the age distribution for 2007 is identical to the age distribution in 2000.

Labor force figures for 1946, 1960 and 1980 come from Mam Table B1 p. 110. Labor force data for Guyana for 1970, 1990, 2000 and 2007 are from WDR (various years).

Real output come from Maddison, except 2007, which comes from WDR. We used .33 for the physical capital investment rate in 1946. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1960-1998 from Mam Table J1, pp. 779 and 783 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary, 1921-1988, and secondary school, 1948-1986, come from Mam Table I1 pp. 740, 744 and 748. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1964-1993 are from Mam Table I2 p. 757. For years prior to 1964 we used enrollment rates of .001. For 2000 and 2007 we used WDR.

8.16 Haiti (1940-2007)

Populations for 1940, 1950, 1971, 1980 and 1991 come from Mam Table A2 p. 15. Population for 1980 is interpolated using 1972 and 1982 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1950, 1971, 1980 and 1991 come from Mam Table A2 p. 15. We assumed the age distribution in 1940 was identical to the age distribution in 1950. The age distribution for Haiti for 1980 is interpolated using the 1972 and 1982 values. The age distribution for 2000 comes from KF. We assumed the age distribution in 2007 was identical to the age distribution in 2000.

Labor force figures for 1950, 1971, 1980 and 1991 come from Mam Table B1 p. 103. Labor force data for Haiti for 1980 are interpolated of 1971 and 1982 values. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1955-1962 from Mam Table J1, p. 770. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1963-1998 from Mam Table J1, p. 770 and WDR (various years). We used the investment rate for 1955 for 1950, and 10 percent for the 1940 observation. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1940-1992 come from Mam Table J1 pp. 722, 727 and 732. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollment rates for Haiti come from WDR (various years). For 2000 and 2007 we used WDR.

8.17 Honduras (1920-2007)

Populations for 1920, 1930, 1940, 1950, 1961, 1974, 1980 and 1990 come from Mam Table A1 p. 4. The 1980 value is interpolated from the 1974 and 1990 value. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1930, 1940, 1950, 1961, 1974, 1980 and 1990 come from Mam Table A2 p. 15. We assumed the age distribution in 1920 is identical to the age distribution in 1930. The age distribution for Honduras for 1980 is interpolated using 1974 and 1990 values. The age distribution for 2000 comes from KF. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1950, 1961, 1974, 1980 and 1990 come from Mam Table B1 p. 104. Labor force data for 1920, 1930, 1940 come from the average labor force participation rate, LF/population, of 1950 and 1961. Labor force data for Honduras for 1980 are interpolated using 1974 and 1990 values. Labor force data for 2000 come from DK. Labor force data for 2007 comes from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1925-1998 from Mam Table J1, pp. 764 and 770 and WDR (various years). For 1920 we assumed a 12.5 percent investment rate. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary, 1919-1993, and secondary school 1922-1993 come from Mam Table I1 pp. 722, 727 and 732. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1922-1992 are from Mam Table I2 pp. 751, 752 and 754. For 2000 and 2007 we used WDR.

8.18   Jamaica (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1921, 1943, 1953, 1960, 1970 and 1991 come from Mam Table A1 p. 5. Population for 1980 is from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1880, 1890, 1900, 1910, 1921, 1943, 1953, 1960, 1970, 1980 and 1991 come from Mam Table A2 p. 16. The age distribution for years prior to 1880 are assumed to be identical to the age distribution in 1880. The 1900 age distribution is interpolated using the 1890 and 1910 age distributions. The age distribution for Jamaica for 1980 is interpolated using 1970 and 1982 values. The age distribution for 2000 comes from KF. We assumed the 2007 age distribution is identical to the 2000 age distribution.

Labor force figures for 1943, 1953, 1963, 1973, 1980 and 1990 come from Mam Table B1 p. 104. The 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910, 1921 labor force assumes they have the labor force participation rate, LF/population, as the average over 1943, 1953 and 1963. Labor force data for Jamaica for 1980 are interpolated using 1973 and 1982 values. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates from the intraperiod average gross real capital formation and real income for 1953-1988 and from 1989-1998 we used the average gross capital formation and income. Mam Table J1, p. 771 and WDR (various years). Prior to 1953, for the physical capital investment rate, we used the intraperiod average gross capital formation and income for 1950-1952. For 2007 we used the average investment rate for 2000-2006 from S & H.

For 1870, 1880, 1890, 1900, 1910, we used Lindert for enrollment rates for primary school. For years prior to 1870, we assumed primary, secondary enrollment rates that were half the succeeding decade's primary, secondary enrollment rates. We assume 0 higher education enrollment rates for 1820-1860. For these years, for secondary school enrollment rates we assumed .25 percent. For these years, for higher education we assumed .005 percent. Enrollments in primary and secondary school from 1918-1991 come from Mam Table I1 pp. 723, 727 and 732. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1948-1992 are from Mam Table I2 pp. 753 and 754. For 2000 and 2007 we used WDR.

8.19   Mexico (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1895, 1900, 1910, 1921, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 17. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1895, 1900, 1910, 1921, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 17. We assumed the age distributions in years prior to 1895 were identical to the age distribution in 1895. The age distribution for Mexico for 2000 comes from DK (1994). We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1895, 1910, 1921, 1930, 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table B1 p. 105. We assumed the 1895 labor force participation rate, LF/population, held for years prior to 1895. Labor force data for 2000 come from DK. Labor force for 2007 comes from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. For years prior to 1940 we assumed a physical capital investment rate of 14.5 percent. Physical capital investment rates come the intraperiod average gross capital formation and income for 1939-1959 from Mam Table J1, pp. 764 and 771. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1960-1998 from Mam Table J1, p. 771 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1895, 1907, 1927-1993 come from Mam Table I1 pp. 720, 723, 728 and 733. Primary school enrollment rates for 1820-1840 are assumed to be 4 percent. Primary school enrollment rates for 1850 are assumed to be 8 percent. Primary school enrollment rates for 1860-1890 are assumed to be 16 percent, the 1895 primary school enrollment rate. Secondary school enrollment rates for 1820-1870 are assumed to be .1 percent. For 1880 and 1890 they are interpolated between the 1870 rate and the 1895 rate. For 1820-1870 we assumed the higher education enrollment rate was .01 percent. For 1880 and 1890 we interpolated the higher education rate between 1860 and 1895. For higher education enrollment rate in 1870 we assumed it to be one tenth of the 1895 rate. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1923-1993 come from Mam Table I2 pp. 751, 753 and 754. We used .001, .001 and .003 for higher education enrollment rates prior to 1923. For 2000 and 2007 we used WDR.

8.20   Nicaragua (1920-2007)

Populations for 1920, 1938, 1950, 1963, 1971, 1980 and 1991 come from Mam Table A2 p. 18. Population for 1980 is interpolated using 1971 and 1991 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1920, 1938, 1950, 1963, 1971, 1980 and 1991 come from Mam Table A2 p. 18. The age distribution for Nicaragua for 1980 is interpolated using 1971 and 1991 values. The age distribution for 2000 comes from KF. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1938, 1950, 1963 and 1971 come from Mam Table B1 p. 106. For 1920 we assumed the same labor force participation rate, LF/population, as in 1938. Labor force data for Nicaragua for 1980, 1990, 2000 and 2007 are from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment

rates come the intraperiod average gross real capital formation and real income for 1945-1975 from Mam Table J1, pp. 765 and 772. We used 16.5 for 1920 and the 1950 investment rate for 1938. Physical capital investment rates for 1976-1998 are from S & H online and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

For 1910 we used Lindert to construct enrollment rates in primary and secondary school. We interpolated these rates with rates in 1938 to construct enrollment rates in 1920. Enrollments in primary and secondary school from 1938, 1950-1993 come from Mam Table I1 pp. 723, 728 and 733. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1944-1992 are from Mam Table I2 pp. 753 and 754. For 2000 and 2007 we used WDR.

8.21   Panama (1940-2007)

Populations for 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A1 p. 5. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 18. The age distribution for 2000 comes from KF. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1940, 1950, 1960, 1970, 1980 and 1990 come from Mam Table B1 p. 106. Labor force data for 2000 come from DK. Labor force data for 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come the intraperiod average gross real capital formation and real income for 1946-1998 from Mam Table J1, pp. 765 and 772 and WDR (various years). For 1940 we assumed the same investment rate as in 1950. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1930-1993 come from Mam Table I1 pp. 724, 728 and 733. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1945-1993 are from Mam Table I2 pp. 753 and 754. For 2000 and 2007 we used WDR.

8.22   Paraguay (1939-2007)

Populations for 1939, 1950, 1962, 1972, 1980 and 1990 come from Mam Table A1 p. 8. Population for 1980 and 1990 are interpolated from 1972, 1982 and 1991 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1939, 1950, 1962, 1972, 1980 and 1990 come from Mam Table A2 p. 28. The age distribution for Paraguay for 1936 is extrapolated from 1950. The age distribution 1980 and 1990 is interpolated from 1972, 1982 and 1991 values. The age distribution for 2000 comes from WDR. We assumed the same age distribution in 2007 as for 2000.

Labor force figures for 1950, 1962, 1972, 1980 and 1990 come from Mam Table B1 p. 110. Labor force for 1939 is extrapolated using the labor force participation rate for 1950. Labor force data for Paraguay for 1980 and 1990 are interpolated from 1972, 1982 and 1994 values. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. We used .155 for 1939 investment rate. We used .12 for the physical capital investment rate for 1950. Physical capital investment

rates come from the intraperiod average gross real capital formation and real income for 1953-1998 from Mam Table J1, pp. 779 and 783 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary, 1915-1993, and secondary school, 1915-1993, come from Mam Table I1 pp. 740, 744 and 748. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1915-1993 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.23   Peru (1900-2007)

Populations for 1900, 1908, 1919, 1930, 1960, 1972, 1981 and 1991 come from Mam Table A1 p. 8. The 1900, 1908, 1919 and 1930 populations are interpolations using 1876 and 1940 values. 1. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1900, 1908, 1919, 1930, 1940, 1960, 1972, 1980 and 19901 come from Mam Table A2 p. 29. The age distribution for Peru for 1900, 1908, 1919 and 1930 are extrapolations of the age distribution in 1940. The age distribution for Peru for 1980 and 1990 are interpolations of the 1972, 1981 and 1991 values. The age distribution for 2000 comes from DK. We assumed the 2007 age distribution is identical to the age distribution in 2000.

Labor force figures for 1940, 1961, 1972, 1980 and 1990 come from Mam Table B1 p. 110. Labor force for 1900, 1908, 1919 and 1930 are extrapolations using the labor force participation rate for 1940. Labor force data for Peru for 1980 and 1990 are interpolations of 1972, 1981 and 1991 values. Labor force data for 2000 and 2007 come from WDR.

Real GNPs are from Maddison, except for 2007, which comes from WDR. For 1900 we used .185, for all other values prior to 1942 we used .09 for physical capital investment rates. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1942-1950, and physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1950-1998 from Mam Table J1, pp. 780 and 784 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1898-1993 come from Mam Table I1 pp. 737, 740, 744 and 748. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-16 are secondary school age. Higher education enrollments for 1898-1993 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.24   Puerto Rico (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1990 come from HDR. Labor force figures for 1950, 1960, 1970, 1980, 2000 and 2007 come from *Statistical Abstracts of the United States* (various years).

Real output come from Maddison, except for 2007, which comes from the CIA Factbook. The 1960-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various

years). We assumed the 1950 investment rate is 12 percent.

Enrollments in primary and secondary schools for 1950-2000 come from Mam Table I1 pp. 729 and 734. We assumed the primary school and secondary school ages are 6-13 and 14-17. The tertiary school enrollments are from Mam Table I2 pp. 753 and 754. For 2007 we used the 2000 enrollment rates.

8.25 Suriname (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1960, 1970, 1980, 1990 and 2000 come from WDI. We assumed the labor force figures for 1950 come from the same labor force participation rate, LF/population, as in 1960. The 2007 labor force figures come from the CIA Factbook.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDI (various years). We assumed the 1950 and 1960 investment rates are 26 and 25 percent, rexpectively.

Enrollment rates in primary, secondary and higher education schools for 1980-2000 come from WDR. For 2007 we used UIS Global Database. For 1950, 1960, and 1970 we assumed each enrollment rate was 75 percent of the following observation. We assumed the primary school and secondary school ages are 6-11 and 12-17.

8.26 Trinidad Tobago (1946-2007)

Populations for 1946, 1960, 1970, 1980 and 1990 come from Mam Table A1 p. 6. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1946, 1960, 1970, 1980 and 1990 come from Mam Table A2 p. 20. The age distribution for 2000 comes from KF. We assumed the age distribution for 2007 is identical to the age distribution in 2000.

Labor force figures for 1946, 1960, 1971, 1980 and 1990 come from Mam Table B1 p. 107. Labor force data for Trinidad Tobago for 1990 is interpolated from the 1980 and 1993 values. Labor force data for 2000 come from DK. Labor force for 2007 comes from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1951-1974 from Mam Table J1, p. 773. For 1946 we used a 7 percent investment rate. Physical capital investment rates for 1975-1998 come from the intraperiod average gross real capital formation and real income Mam Table J1, p. 773 and WDR (various years). For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1931-1993 come from Mam Table I1 pp. 724, 729 and 734. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1964-1993 are from Mam Table I2 pp. 753 and 754. Prior to 1960 we used enrollment rates for higher education of .001, .001 and .004. For 2000 and 2007 we used WDR.

8.27 Uruguay (1870-2007)

Populations for 1870, 1900, 1908, 1939 and 1949 are interpolated from 1908 and 1963 come from Mam Table A1 p. 8. Populations for 1963 and 1975 come from Mam Table A1 p. 8. Populations for 1980 and 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1900, 1908, 1939, 1949 are interpolated from 1908 and 1963 from Mam Table A2 p. 30. The age distribution for 1963 and 1975 come from Mam Table A2 p. 30. The age distribution in 1870 is assumed to be identical to the age distribution in 1900. The age distribution for Uruguay for 1980 and 1990 is interpolated from the 1975, 1985 and 1991 values. The age distribution for 2000 comes from DK. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1963, 1975, 1980 and 1990 come from Mam Table B1 p. 110. Labor force for 1870, 1900, 1908, 1919, 1929, 1939, 1949 are extrapolated using the labor force participation rate of 1963. Labor force data for Uruguay for 1980 and 1990 are interpolated from 1975, 1985 and 1992 values. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1961-1998 from Mam Table J1, pp. 780 and 784 and WDR (various years). For years less than 1961 we used 17.5 percent for investment rate. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary school from 1869-1993 come from Mam Table I1 pp. 735, 737, 741, 745 and 749. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1886-1992 are from Mam Table I2 pp. 755, 756 and 757. For 2000 and 2007 we used WDR.

8.28 Venezuela (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1936, 1941, 1950, 1961 and 1971 come from Mam Table A1 p. 8. Population for 1980 and 1990 comes from S & H (1991). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions of the population for 1936, 1941, 1950, 1961, 1971, 1980 and 1990 come from Mam Table A2 p. 30. We assumed the age distributions for years prior to 1936 are identical to the age distribution in 1936. The age distribution for Venezuela for 1980 and 1990 are interpolations using the 1971, 1981 and 1991 values. The age distribution for 2000 comes from DK. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1941, 1950, 1961, 1971, 1980 and 1990 come from Mam Table B1 p. 110. Labor force data for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1936 is extrapolated from the average labor force participation rate for 1941 and 1950. Labor force data for Venezuela for 1980 and 1990 are interpolated from the 1971, 1981 and 1991 values. Labor force data for 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1950-1998 from Mam Table J1, pp. 781 and 785 and WDR (various years). For years prior to 1870-1950 we assumed an investment rate of .12. For years prior to 1870 we used 14.5 percent for investment rate. For 2007 we used

the average investment rate for 2000-2006 from S & H.

For primary school enrollment rates in years 1870, 1900, 1913 we assumed they were double those in Brazil. For 1820-1860 we assumed a primary school enrollment rate of 10 percent. We assumed .25 percent enrollment rates in secondary school for 1820-1913. We assumed no higher education enrollments in these years. Enrollments in primary and secondary school from 1916-1993 come from Mam Table I1 pp. 741, 745 and 749. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-16 are secondary school age. Higher education enrollments for 1926-191 are from Mam Table I2 pp. 756 and 757. For 2000 and 2007 we used WDR.

9 Middle East

9.1 Bahrain (1950-2007)

Population for 1950, 1960, 1970 come from Maddison. Populations for 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). For 1950 and 1960 we assumed the same labor force participation rate, LF/population, as in 1970.

Real GNP come from Maddison, except for 2007, which comes from WDR. The extremely high values prior to 1970 are consistent with the fact of 1932 as the peak year of oil discovery as well as applying 2000 terms of trade on the early years. The 1980-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 25 percent investment rate for all years prior to 1980. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollment rates in primary, secondary schools and higher education for 1960-2000 come from WDR (various years). For 1950 we assume enrollment rates of 25, 5 and .1 percent for primary school, secondary school and higher education, respectively. For 2007 we used UIS Global Database. We assumed the primary school and secondary school ages are 6-11 and 12-17.

9.2 Iran (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950, 1956, 1966, 1971 and 1981 come from Maa Table A2 p. 21. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1956, 1966, 1971, 1980 and 1990 come from Maa Table A2 p.21. We assumed the age distributions prior to 1956 are identical to the age distribution in 1956. The age distribution for Iran for 1980 and 1990 are interpolated from 1971, 1986 and 1991 values. The age distribution for 2000 comes from DK. We assumed the age distribution in 2007 is identical to the age distribution in 2000.

Labor force figures for 1956, 1966, 1976 and 1986 comes from Maa Table B1 p. 96. We assumed the labor force data for years prior to 1956 come from the same labor force participation rate, LF/population,

in 1956. Labor force figures for Iran 2000 and 2007 come from WDR.

Real GNP comes from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1955-1990 and intraperiod average gross capital formation and income for 1991-1998 from Maa Table J1, p. 1029 and WDR (various years). We assumed a 14 percent investment rate for all years prior to 1870. For 1870-1950 we assumed an investment rate of 15 percent. For 2000 and 2007 we used intraperiod average investment rates from S & H.

We used Lindert for enrollment rates for 1920, 1930, 1940 and 1950. Enrollments in primary and secondary schools from 1950-1993 come from Maa Table I1 pp. 983 and 987. For years prior to 1920, we assumed primary enrollment rates of 1 percent, secondary enrollment rates of .1 percent (1820-1860) and .2 percent (1870-1913) and higher education enrollment rates of .01 percent (1820-1860) and .05 percent (1870-1910). To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1948-1991 come from Maa Table I2 p. 1003. For 2000 and 2007 we used WDR.

9.3   Iraq (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950, 1957, 1965 and 1977 comes from Maa Table A1 p. 8. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distribution for 1957, 1965, 1977 and 1990 come from Maa Table A2 p.21. The age distribution for year prior to 1957 is extrapolated from the age distribution in 1957. The age distribution for Iraq for 2000 comes from DK. The age distribution for 2007 is assumed to be identical with the age distribution in 2000.

Labor force figures for 1957, 1977 and 1987 come from Maa Table B1 p. 96. Labor force for Iraq for 1965 is interpolated from the 1957 and 1977 figures. Labor force figures for Iraq prior to 1957 are extrapolated from the 1957 labor force participation rate. Labor force figures for Iraq 2000 and 2007 come from WDR.

Real GNPs come from Maddison, except for 2007, which comes from WDR. The 2007 value comes from the CIA Factbook. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1950-1998 from Maa Table J1, p. 1030 and WDR (various years). We used the value of .14 for the investment rate in all pre 1951 observations. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1947-1993 come from Maa Table I1 pp. 983 and 987. For years prior to 1950 we assumed that the primary, secondary and higher education enrollment rates were 75 percent of the primary, secondary and higher education enrollment rates of the succeeding decade. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1940-1988 come from Maa Table I2 pp. 1001 and 1003. For 2000 and 2007 we used WDR.

9.4   Israel (1948-2007)

Populations for 1948, 1961 and 1972 comes from Maa Table A1 p. 8. Populations for 1956, 1980 and 1990 come from S & H (1991). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes

from *Time Almanac 2008*.

The age distribution for 1948, 1956, 1961, 1972 comes from KF. The age distribution for Israel for 1980, 1990 and 2000 come from DK. We assumed the 2007 age distribution to be identical to the age distribution in 2000.

Labor force figures for 1948, 1956, 1961, 1972 and 1983 come from Maa Table B1 p. 96. Labor force data for Israel 1990, 2000 and 2007 come from WDR (various years).

Real GNPs come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross capital formation and income for 1950-1954 and the intraperiod average gross real capital formation and real income for 1955-1998 from M (1992) Table J1, p. 1030 and WDR (various years). We used .165 for the 1948 observation. We used the average investment rate over 2000-2006 from S & H for 2007.

Enrollments in primary and secondary schools from 1950-1993 come from Maa Table I1 p. 987. We used the 1950 enrollment rate for the 1948 observation. To calculate enrollment rates, we assumed 6-13 are primary school age and 14-17 are secondary school age. Higher education enrollments for 1945-1993 come from Maa Table I2 p. 1004. For 2000 and 2007 we used WDR.

9.5 Jordan (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). We assume the 1950 labor force has the same labor force participation rate, LF/population, as 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The 1950-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years).

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 987. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from Maa Table I2 p. 1004. For 2007 we used WDR.

9.6 Kuwait (1950-2007)

Population for 1950, 1960, 1970 come from Maddison. Populations for 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The extremely high values prior to 1970 are consistent with the fact of 1938 as the peak year of oil discovery as well as applying 2000

terms of trade on the early years. The 1980-2000 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). We assumed a 20 percent investment rate for all years prior to 1980. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollment rates in primary and secondary schools for 1960-2007 come from WDR (various years). For 1950 we used UNESCO. We assumed the primary school and secondary school ages are 6-9 and 10-17. The tertiary school enrollments are from WDR (various years).

9.7 Lebanon (1820-2007)

Population for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950, 1960, 1970 come from Maddison. Populations for 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the age distributions prior to 1950 were identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2006 come from WDR (various years). For years prior to 1960 we assumed the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The 1970-1990 investment rates are the intraperiod average investment rate taken from Mitchell. We assumed a 15 percent investment rate for all years prior to 1970. For 2007 we used the average investment rate from 2000-2006 from S & H.

Enrollment rates in primary, secondary and higher education for 1960-1990 come from WDI (various years). For years 1900-1940 we assumed that primary, secondary and higher education enrollment rates were 95 percent of the primary, secondary and higher education enrollment rates of the succeeding decade. For 1820-1890, we assumed that primary, secondary and higher education enrollment rates were 75 percent of the primary, secondary and higher education enrollment rates of the succeeding decade. For 1950 we used Mitchell. For 2000 we used UNESCO. For 2007 we used WDR. We assumed the primary school and secondary school ages are 6-10 and 11-17.

9.8 Oman (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. We used the 1989 value for the 1990 observation. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The extremely high values prior to 1970 are consistent with the fact of 1962 as the peak year of oil discovery as well as applying 2000 terms of trade on the early years. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960 and 1970 we assumed a 10 percent investment rate.

Enrollment rates for primary and secondary schools for 1960-2007 come from WDR (various years). We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from WDR (various years). For 1950 we assumed the same enrollment rates as for 1960.

9.9 Qatar (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. We used the 1989 value for the 1990 observation. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990 come from WDI (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960. For 2000 and 2007 we used WDR.

Real output come from Maddison, except for 2007, which comes from WDR. The extremely high values prior to 1970 are consistent with the fact of 1940 as the peak year of oil discovery as well as applying 2000 terms of trade on the early years. The 2007 investment rates are the intraperiod average investment rate taken from S & H online. For 1980 we assumed a 20 percent investment rate. For 1990-2000 we used Kuwait investment rates.

Enrollment rates for primary and secondary schools for 1960-1990 come from WDI (various years). For 2000 we used UNESCO. For 2006 we used UIS Global Database. For 1950 we assumed 50, 3 and .5 percent enrollment rates for primary, secondary and higher education, respectively. We assumed the primary school and secondary school ages are 6-11 and 12-17.

9.10 Saudi Arabia (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from S & H online. We used the 1989 value for the 1990 observation. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The extremely high values prior to 1970 are consistent with the fact of 1948 as the peak year of oil discovery as well as applying 2000 terms of trade on the early years. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For years prior to 1980 we assumed an investment rate of 16.5 percent.

Enrollments in primary and secondary schools for 1950-2000 come from Maa Table I1 p. 990. We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from Maa Table I2 p. 1005. For 2007 we used WDR.

9.11   Syria (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950, 1960, 1970 and 1981 from Maa Table A1 p. 9. Population in 1950 is interpolated from 1946 and 1960 values. Population for 1990 comes from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1960, 1970, 1981 and 1991 come from Maa Table A2 p. 26. The age distribution prior to 1960 is extrapolated from the age distribution in 1960. The age distributions for 1981 and 1991 are interpolated from the age distributions in 1970 and 1992. The age distribution for Syria for 2000 comes from DK. We assumed the age distribution for 2007 was identical to the age distribution in 2000.

Labor force figures for 1960, 1970, 1981 and 1991 come from Maa Table B1 p. 99. Labor force for Syria prior to 1960 is extrapolated from the labor force participation rate in 1960. Labor force figures for Syria 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average investment rate for 1970-1998 from S & H online and WDR (various years). For years prior to 1870 we assumed an investment rate of 9 percent. For years between 1870-1969, we assumed an investment rate of 12 percent. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1947-1993 come from Maa Table I1 pp. 985 and 990. For years prior to 1950, we assumed primary, secondary and higher education enrollment rates that were half the succeeding decade's primary, secondary and higher education enrollment rates. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollment rates for 1937-1992 come from Maa Table I2 p. 1002 and 1005. For 2000 and 2007 we used WDR.

9.12   United Arab Emirates (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). We assumed the same labor force participation rate as in 1960 for the 1950 observation.

Real output come from Maddison, except for 2007, which comes from WDR. The extremely high values prior to 1970 are consistent with the fact of 1964 as the peak year of oil discovery as well as applying 2000 terms of trade on the early years. However it does appear that 1950 could be high. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960 and 1970 we assumed an investment rate of 27.5 percent.

Enrollment rates for primary and secondary schools for 1970-2000 come from WDR (various years). We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments are from WDR (various years). For 1950 and 1960 we assumed 25 percent and 50 percent enrollment rates in primary school, 10 percent each for secondary school enrollment rates, and .1 percent for each year for

higher education enrollment rates.

9.13 Yemen (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980 come from WDI (various years). Labor force data for 1990, 2000 and 2007 come from WDR. Labor force data for 1950 is assumed to have the same labor force participation rate, LF/population, as in 1960.

Real output come from Maddison, except for 2007, which comes from WDR. The 1980-2007 investment rates are the intraperiod average investment rate taken from S & H online and WDR (various years). For 1950, 1960 and 1970 we assumed an investment rate of 7.5 percent.

Enrollment rates for primary and secondary schools for 1960-2007 come from WDR (various years). We assumed the primary school and secondary school rates are 6-13 and 14-19. The tertiary school enrollments are from WDR (various years). For 1950 we used UNESCO.

10   North Africa

10.1   Algeria (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1936, 1948, 1954, 1966, 1980, 1987 come from Maa Table A2 p. 14. Population for 1948 and 1980 are interpolated from 1936 and 1954, 1966 and 1987 values. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1948, 1954, 1966, 1980 and 1987 come from Maa Table A2 p. 14. The age distribution for Algeria for 1980 is interpolated from 1966 and 1987 values. The age distribution prior to 1948 is assumed identical to the 1948 age distribution. The age distribution for 2000 comes from DK. We assumed the age distribution for 2007 was identical to the age distribution in 2000.

Labor force figures for 1948, 1954, 1966, 1980 and 1987 come from Maa Table B1 p. 90. Labor force data for years prior to 1948 are assumed to have the same labor force participation rate, LF/population, as in 1948. Labor force figures for Algeria 2000 and 2007 come from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates come from the intraperiod average gross real capital formation and real income for 1950-1998 from Maa Table J1, p. 1010 and WDR (various years). For years prior to 1946 we assumed 5 percent for 1820-1860, and 15 percent for 1870-1930. For years prior to 1870 we assumed a 15 percent investment rate. For 1936 we assumed the investment rate for 1946. For 2007 we used the average investment rate for 2000-2006 from S & H.

Enrollments in primary and secondary schools from 1936-1993 come from Maa Table I1 pp. 968 and 973. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1910-1993 come from Maa Table I2 pp. 996 and 997. For years prior

to 1936 we assume primary school, secondary school and higher education enrollment rates that were 75 percent the succeeding decade's primary school, secondary school and higher education enrollment rate. For 2000 and 2007 we used WDR.

10.2   Egypt (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1910 come from Mitchell. Populations for 1917, 1927, 1937, 1947, 1960, 1966 and 1975 come from Maa Table A2 p. 15. Population for 1966 is geometrically interpolated from 1960 and 1975 values. Populations for 1980 and 1990 come from S & H online. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1917, 1927, 1937, 1947, 1960 and 1975 come from Maa Table A2 p. 15. The age distributions for 1820-1910 are assumed to be identical to the age distribution in 1917. The age distributions for Egypt for 1966, 1980, 1990 are interpolated from 1960, 1975, 1992 values. The age distribution for 2000 comes from DK. We assumed the 2007 age distribution is identical to the age distribution in 2000.

Labor force figures for 1917, 1927, 1937, 1947, 1960, 1966, 1976 and 1986 come from Maa Table B1 p. 91. Labor force data for 1820-1910 assumes the average labor force participation rate, LF/population, over the 1917, 1927 and 1937 period holds. Labor force figures for Egypt 2000 and 2006 comes from WDR.

Real output come from Maddison, except for 2007, which comes from WDR. Prior to 1960 we used the .095 for the investment rate. After 1947 we used the intraperiod average investment rate from S & H online and WDR (various years).

Enrollment rates for 1850-1890 come from Morris and Adelman. For 1820, 1830 and 1840, we assumed 1 percent primary enrollment rates, .1 percent secondary enrollment rates and 0 percent higher education enrollment rates. Enrollment rates for 1900, 1910 and 1917 come from Lindert. Enrollments in primary and secondary schools from 1920-1993 come from Maa Table I1 pp. 968 and 974. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1910-1993 come from Maa Table I2 pp. 996 and 997. For 2000 and 2007 we used WDR.

10.3   Libya (1950-2007)

Populations for 1950, 1960, 1970, 1980 and 1990 come from Maa Table A5 p 53. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1950, 1960, 1970, 1980, 1990 and 2000 come from KF. We assumed the 1950 age distribution was identical to the 1960 age distribution. We assumed the same age distribution in 2007 as in 2000.

Labor force figures for 1960, 1970, 1980, 1990, 2000 and 2007 come from WDR (various years). For 1950 we assumed the same labor force participation rate, LF/population, as in 1960.

Real output for 1950, 1960, 1970, 1980, 1990 and 2000 come from Maddison. Real output for 2007 comes from the CIA Factbook. The 1960-2008 investment rates are the intraperiod average investment rate taken from Maa Table J1 p. 1016 and WDR (various years). For 1950 we assume and investment rate of 40 percent.

Enrollment rates in primary and secondary schools for 1960-2007 come from WDR (various years). We assumed the primary school and secondary school ages are 6-11 and 12-17. The tertiary school enrollments

are from WDR (various years). For 1950 we used Banks, et al.

10.4 Morocco (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1951, 1960, 1971 and 1980 come from Maa Table A2 p. 16. Population for 1990 comes from Maddison. Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1951, 1960, 1971, 1980 and 1990 come from Maa Table A2 p. 16. We assumed the age distribution prior to 1951 was identical to the age distribution in 1951. The age distribution for Morocco for 1980 and 1990 are interpolations using 1971, 1982 and 1993. The age distribution for 2000 comes from DK. We assumed the age distribution for 2007 was identical to the age distribution in 2000.

Labor force figures for 1982 come from Maa Table B1 p. 92. We assumed the same labor force participation rates in years prior to 1982 as in 1982. Labor force figures for Morocco for 1990, 2000 and 2007 come from WDR (various years).

Real output come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1960-1998 come from the intraperiod average investment rates from S & H online and WDR (various years). We used .105 for year prior to 1960.

Enrollments in primary and secondary schools from 1914-1993 come from Maa Table I1 pp. 970 and 976. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age. Higher education enrollments for 1914-1993 come from Maa Table I2 pp. 996 and 999. For years prior to 1913 we assume primary, secondary and higher education enrollment rates that were 90 percent of the primary, secondary and higher education enrollment rates of the succeeding decade. For 2000 and 2007 we used WDR.

10.5 Tunisia (1820-2007)

Populations for 1820, 1830, 1840, 1850, 1860, 1870, 1880, 1890, 1900, 1913, 1920, 1930, 1940, 1950, 1956, 1966 comes from Maa Table A2 p. 18. Population for 1973 is geometrically interpolated from 1966 and 1984 from Maa Table A2 p. 18. Populations for 1981 and 1990 come from S & H (1991). Population for 2000 comes from *Time Almanac 2001*. Population for 2007 comes from *Time Almanac 2008*.

The age distributions for 1956 and 1966 come from Maa Table A2 p. 18. We assumed the same age distribution in year prior to 1956 as for 1956. The age distribution for Tunisia 1973 is geometrically interpolated from 1966 and 1984 from Maa Table A1 p. 18. The age distributions for Tunisia for 1990 and 2000 come from DK. We assumed the 2007 age distribution is identical to the 2000 age distribution.

Labor force figures for Tunisia 1956, 1966, 1975, 1984 and 1990 come from WDI. We assumed the labor force prior to 1956 comes from the same labor force participation rate, LF/population, as in 1956. Labor force figures for Tunisia 2000 and 2007 come from WDR.

Real GNP come from Maddison, except for 2007, which comes from WDR. Physical capital investment rates for 1966-2006 come from the intraperiod average investment rates from S & H online and WDR (various years). For years 1950 and 1956 we assumed an investment rate of 12 percent. For years prior to 1966 we assumed an investment rate of 9.5 percent.

Enrollments in primary and secondary schools from 1945-1993 come from Maa Table I1 p. 972 and 979. To calculate enrollment rates, we assumed 6-11 are primary school age and 12-17 are secondary school age.

Higher education enrollments for 1943-1993 come from Maa Table I2 p. 996 and 1000. For years prior to 1950 we assumed that primary, secondary and higher education enrollment rates were 75 percent of the succeeding decade's primary, secondary and higher education enrollment rates. For 2000 and 2007 we used WDR.

11   Special Depreciation Rates

In this section we detail the special depreciation rates for some countries that attempt to take into account wars. Table 3 below contains the special cases in depreciation rates.

Table 5: Special Depreciation Rates

country	δ	year	note
Austria	0.14	1923	World War I
Belgium	0.14	1920	World War I
France	0.14	1921	World War I
Germany	0.14	1918	World War I
UK	0.14	1921	World War I
US	0.10	1920	World War I
Albania	0.15	1950	World War II
Australia	0.11	1954	World War II
Austria	0.16	1951	World War II
Belgium	0.19	1947	World War II
Bulgaria	0.15	1946	World War II
Canada	0.11	1951	World War II
Cyprus	0.10	1950	World War II
Czech Republic	0.15	1950	World War II
Denmark	0.11	1950	World War II
East Germany	0.0535	1950	World War II
Finland	0.13	1950	World War II
France	0.16	1946	World War II
Germany	0.21	1950	World War II
Hungary	0.15	1949	World War II
Japan	0.21	1950	World War II
Luxembourg	0.19	1950	World War II
Netherlands	0.12	1947	World War II
New Zealand	0.11	1950	World War II
Norway	0.12	1946	World War II
Poland	0.17	1950	World War II
Romania	0.15	1948	World War II
Russia	0.17	1949	World War II
UK	0.18	1951	World War II
US	0.11	1950	World War II
Yugoslavia	0.15	1950	World War II
Bulgaria	5δ	1990	End of Communism
Czech Republic	5δ	1990	End of Communism
Hungary	5δ	1990	End of Communism
Poland	5δ	1990	End of Communism
Romania	5δ	1990	End of Communism
Slovak Republic	5δ	1990	End of Communism
Yugoslavia	5δ	1990	End of Communism
Russia	0.10	1989	End of Communism
Russia	0.075	2000	Transition
Yugoslavia	0.15	2000	Civil War

Notes: Table reports our exceptions in depreciation rates.

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