RANEPA Research Laboratory on the
Economics of Health and Health Reform
Project Workshop
Gaidar Institute, Moscow, 5 June 2014

The Dynamics of the Human Capital of the Elderly in Russia, 1990-2020: From Burden to Benefit?

Slides Not for Circulation: The AgeWatch tables for Russia in this presentation were calculated for illustrative purposes using both actual data and rough estimates of missing values and therefore are not ready for dissemination.
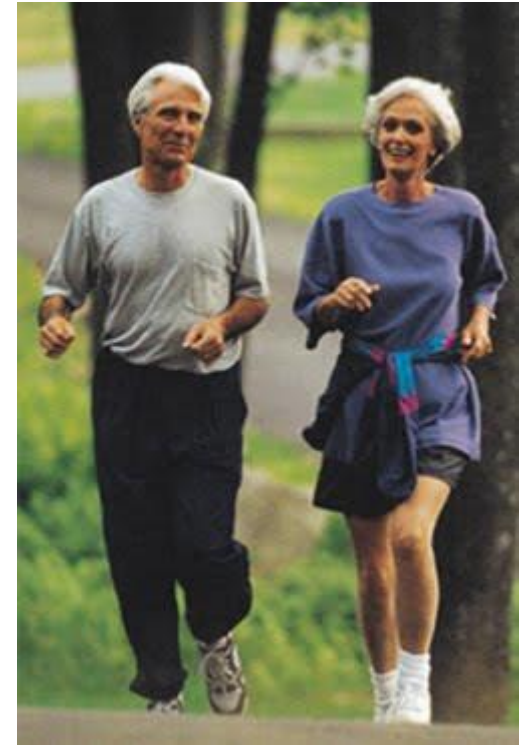
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Images of the Elderly: Russia

Images of the Elderly: OECD

Positive Images Reflect Improvements in the Lives of the Elderly and New Assessments

- October 2012 UNFPA *Ageing in the Twenty-First Century: A Celebration and a Challenge*

- *Ageing is a triumph of development. Increasing longevity is one of humanity's greatest achievements…The opportunities that this demographic shift presents are as endless as the contributions that a socially and economically active, secure and healthy ageing population can bring to society.*

- Elderly own capital and have knowledge, experience and skills

Changes in Health of the Elderly

- ## Life Expectancy at 60
  - Number of years a person at the age of 60 is expected to live given the maintenance of existing mortality rates throughout the future period
 - LE 60 of Japan rises from 16.3 years in 1960 to 25.8 in 2010

- ## *Healthy Life Expectancy*
  - Number of years that are lived in good health from a specified age given LE and self-assessments of health made in population surveys
  - In the UK male LE at birth rose from 70.9 years in 1981 to 75.7 years in 2001, while HLE rose from 64.4 years to 67.0 years

Life Expectancy at Age 60 in Russia, UK and Japan: 1960-2010

| | Life Expectancy at Age 60 | | | | | | Difference in LE at 60 (Japan - Russia) | |
| | Russia | | UK | | Japan | | | |
Year	Male Pop	Total Pop	Male Pop	Total Pop	Male Pop	Total Pop	Male Pop	Total Pop
1960	16.00	18.78	15.21	17.35	14.83	16.33	-1.17	-2.45
1970	14.79	17.90	15.28	17.72	15.96	17.66	1.17	-0.24
1980	14.25	17.53	16.14	18.57	18.32	20.21	4.07	2.68
1990	14.66	17.74	17.53	19.79	20.02	22.25	5.36	4.51
2000	13.18	16.34	19.46	21.36	21.42	24.31	8.24	7.97
2010	14.38	17.72	21.97	23.50	22.89	25.82	8.51	8.10

Life Expectancy at 60 1960-2010: Russia, UK, Japan
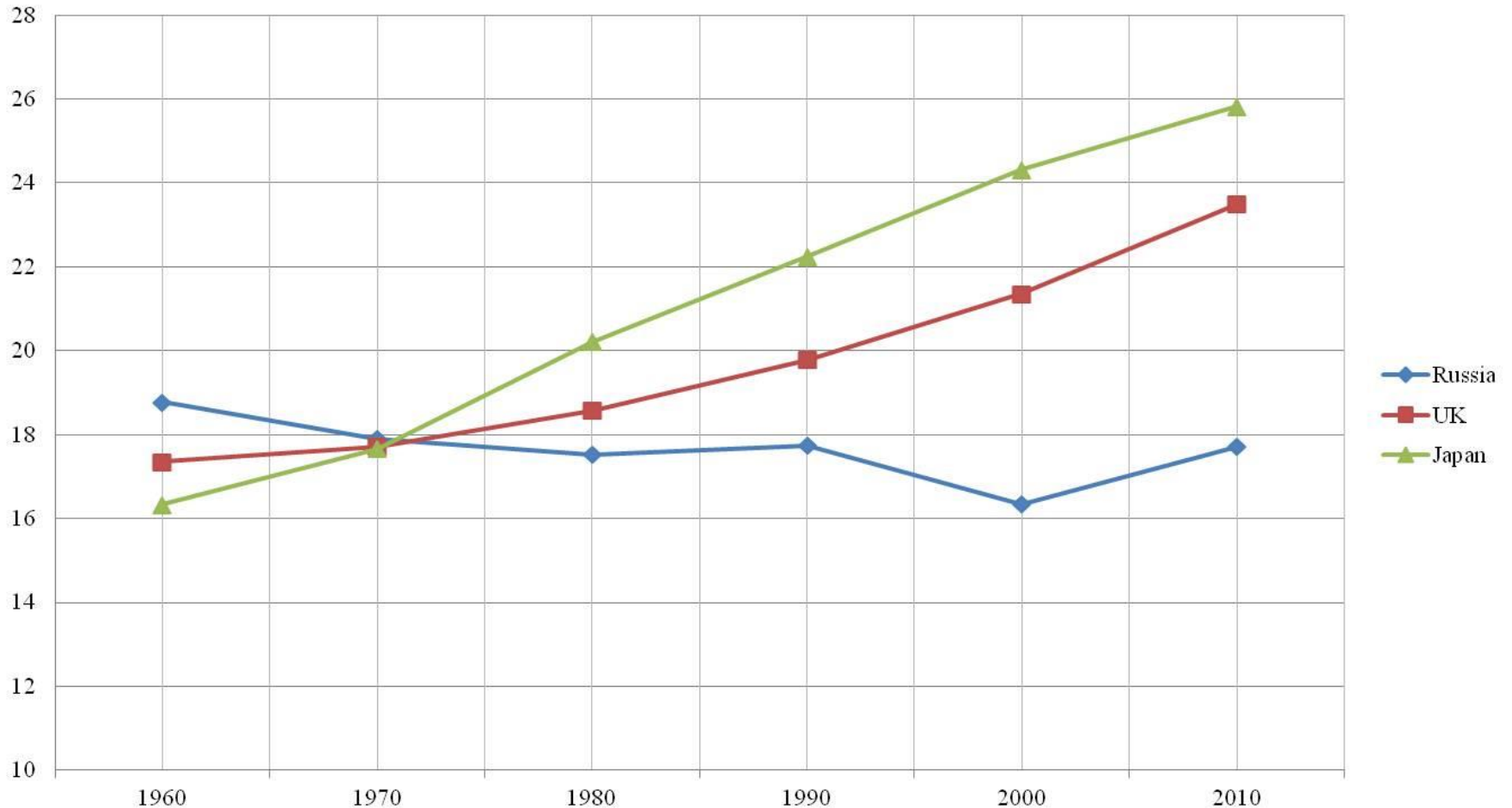
Reducing Disability of the Elderly

- Share of Elderly Population with a Disability
  - In the USA the National Long-Term Care Survey of Medicare patients has shown that the percentage of the population aged 65-74 without disability increased from 85.8% in 1982 to 91.1% in 2004/05

- *Active (Disability Free) Life Expectancy*
  - *M*easures years of future life free from chronic disability using indicators of ability to perform "activities of daily living" (e.g. bathing) and "instrumental activities" (e.g. meal preparation).
  - USA LE of males at age 85 increased from 5.4 years in 1965 to 6.4 years in 1999 and should rise to 7.8 years by 2015, whereas rises in Active LEs are from 1.5 years to 3.0 to 4.8

Are Elderly in Russia Changing from Burden to a Benefit?

- Income
  - *How adequate is the pension of the elderly?*
- Education/Training
  - *What is average educational attainment and work experience/skills set of the elderly?*
- Health
  - *What is Life Expectancy at 60 and Healthy (Illness-Adjusted) Life Expectancy at 60?*
- Enabling Environment
  - *Are the elderly assisted in achieving potential?*

Structure of Presentation

- Concepts
  - Demography: Definition of the Elderly and Age-Cohort Analysis
  - Enabling Environment of the Elderly and Social Capital
  - Human Capital: Initial Narrow and Augmented Definitions
- Review of Three Indexes of Human Development/Capital
  - UNDP ***Human Development Index*** (Dimensions: 1. Income, 2. Education, 3. Health)
  - World Economic Forum ***Human Capital Index*** (Dimensions: 1. Education, 2. Health, 3. Employment/Skills, 4. Enabling Environment)
  - HelpAge ***Global AgeWatch Index*** (Dimensions: 1. Income Security, 2.Health, 3. Employment and Education, 4. Enabling Environment)
- Augmented Human Capital (AHC) of the Elderly in Russia
  - Elderly in the RSFSR (1965-1991) and AHC in 1990
  - Elderly in Russia in Early Transition (1992-1998) and AHC in 1995
  - Elderly in Russia in Current Period (1999-2014) and AHC in 2000, 2010
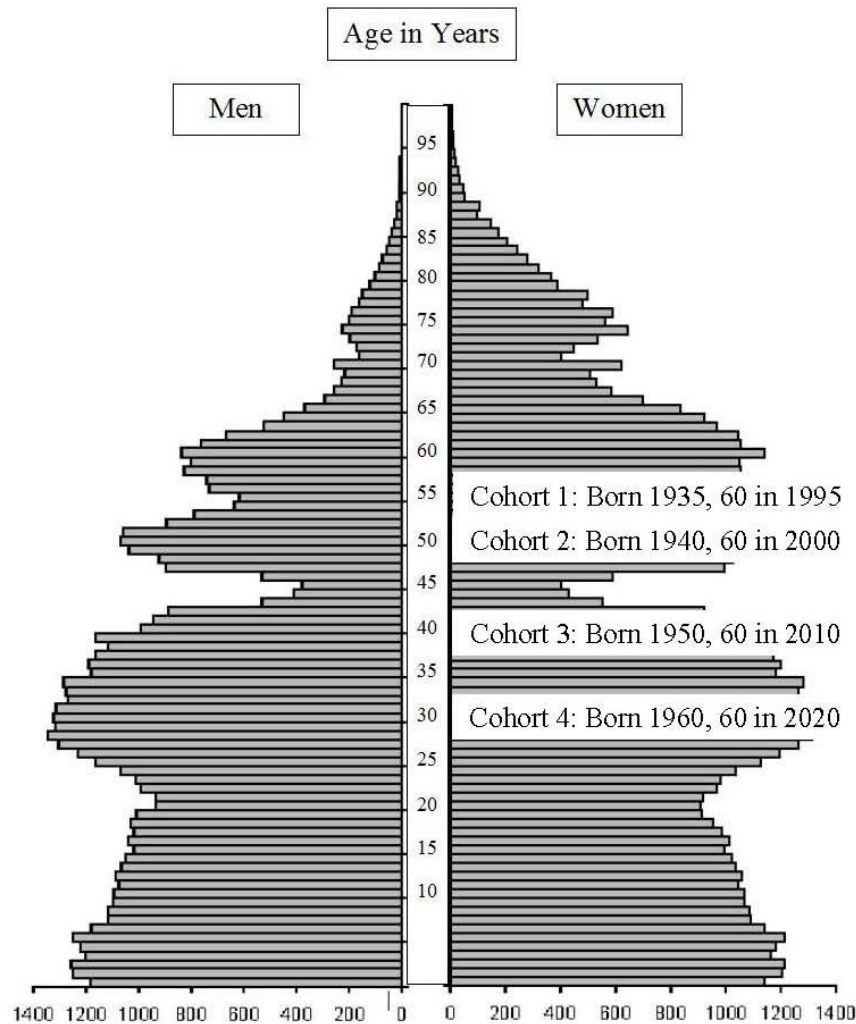 - Elderly in Russia in the Future (2015-2020) and AHC in 2020

Definitions of the Elderly and Data

- Three definitions
  - Population aged 60 and older
  - Population in old-age retirement (w 55+, m 60+)
  - Population aged 65 and older
- Sources of Data
  - National sources (USSR and RF for Russia)
  - International sources (UN, OECD, WHO, ILO, World Bank, NGOs like AgeWatch)
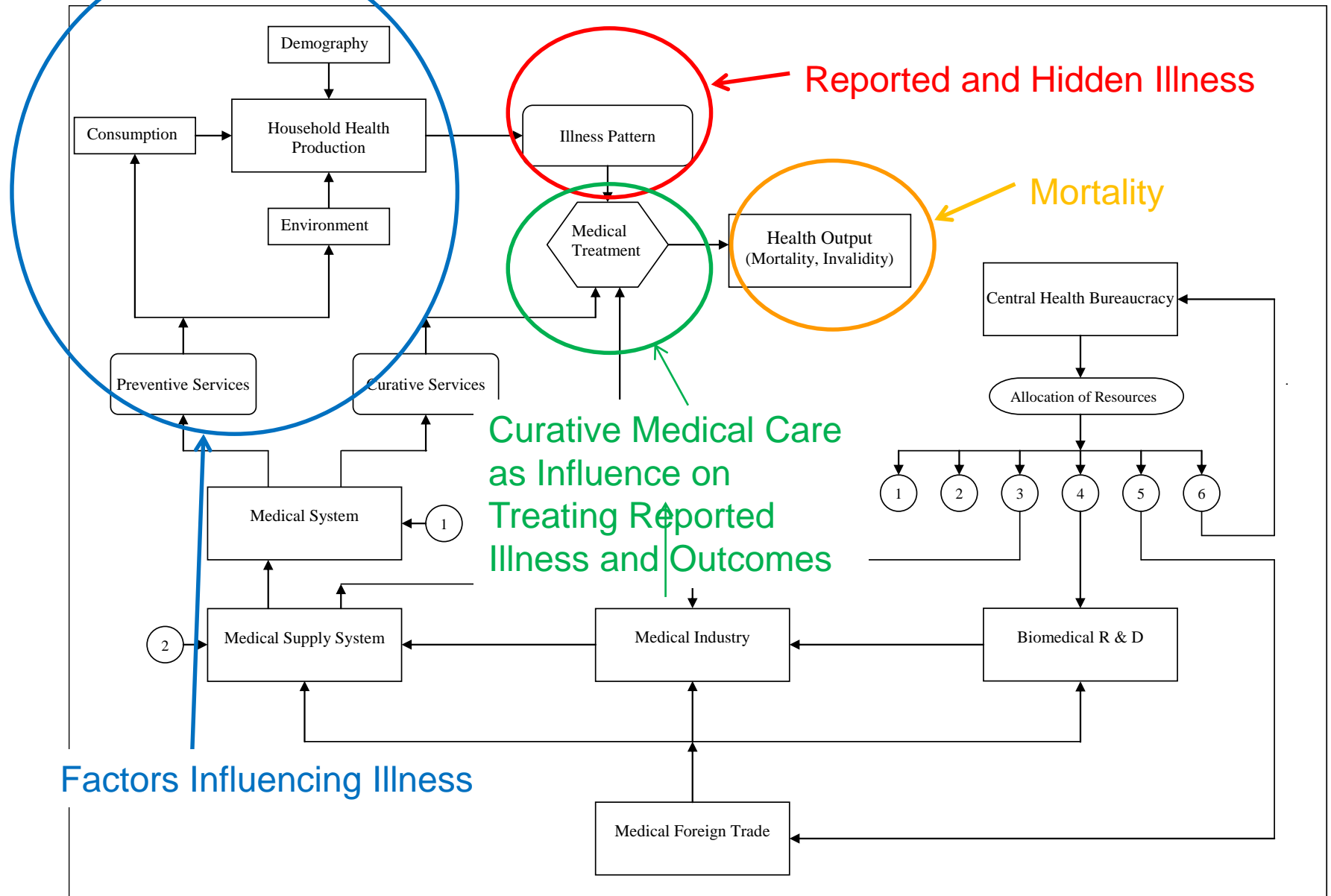
Cohorts of the Elderly in Russia (1995, 2000, 2010, 2020) Born in USSR

Year Age 60	Year of Birth	Childhood (0-10)	Young Adult (18-30)	Elderly (60-)
1995	1935	Stalin FYPs; Collectivization; Famine; Low SOL, Education, Medical Care	Late Stalin; Arms Buildup; Famine; Low SOL; Improving Education, Medical Care	Break-up USSR and Economic Collapse; Loss of Savings; Declines in Real Pensions, Health Expenditure (HE) and Medical Care
2000	1940	World War II; Late Stalin; Arms Buildup; Famine; Low SOL; Improving Education, Medical Care	Post-Stalin; Improving SOL, Education, Medical Care	Economic Recovery and GFC; Rises in Real Pensions, HE, Medical Care and Welfare Services
2010	1950	Peacetime Post-Stalin; Improving SOL, Education, Medical Care	Brezhnev Stability/ Stagnation; Improving SOL, Education, Medical Care	Post-GFC Recovery; Rises in Real Pensions, HE, Medical Care and Welfare Services
2020	1960	Economic Stability; Improving SOL, Education, Medical Care	Economic Stagnation; Perestroika; Instability; Improving SOL, Education, Medical Care	Slow Economic Growth; Rise in Real Pensions, HE, Medical Care and Welfare Services

Russian Age-Gender Pyramid and Cohorts of the Elderly in 1990

Health Sector Production Process

Health Sector in an Economic System

Economic Policies
Fiscal, Monetary, Industrial, Foreign Trade, Exchange Rate

Economic System

Health Sector
Household
Medical System
Medical Supply
Medical Industry
Biomedical R & D
Medical Foreign Trade
Health Bureaucracy

Economic Environment
Natural Resources, Population, Integrity of Economic Space, External Economic Factors

Performance of Health Institutions
Quantity of Medical Services
Quality of Medical Services
Medical System Efficiency
Sufficiency of Medical Inputs
Effectiveness of Supply System
Production of Medicines and Medical Equipment
Medical Technology Innovation
Imports of Medicines and Medical Equipment

Human Capital

- Human Capital refers to the stock of competencies (skills), knowledge, and personal attributes (e.g. creativity) that enable people to make contributions to their family, society, and the economy.

- Human capital can be increased through improvements in education/training and health, and by acquisition of experience (OECD 2007).

- Private and public investment in human capital contributes to the production of a variety of outputs.

Health Component of Human Capital

- Good health of the population is important for the development and sustainability of human capital at all stages of life.

- According to OECD (2007, Chapter 6):

  - *…health is itself a distinct ingredient within human capital…A worker whose human capital includes strong health is more productive in the workplace and so tends to earn more...a country that sees an improvement in life expectancy of five years...will see its economy grow up to 0.5% faster than one where life expectancies are static.*

- Health is especially influential on human capital for older people

  - The elderly have mostly completed the acquisition of skills through education and experience through work, so maintenance of good health is the key determinant of the abilities of individuals to continue to make contributions to society and the economy.

Enabling Environment of the Elderly

(1) Social Capital

(2) Medical Care

(3) Social Care

(4) Protection Against Crime

(5) Access to Public Transport

(6) Housing

(7) Access to Civil Society

Social Capital of the Elderly

- Social Capital can be defined as (OECD 2007, pg. 103):

- *…networks together with shared norms, values and understandings that facilitate co-operation within or among groups.*

- Social capital made up of the real-world links between groups or individuals, such as between friends, family, and colleagues that engender trust and so enable people to work together. S

- The elderly traditionally rely on and benefit from networks that have been developed over decades,

- Social capital is a variable and can be adversely affected by changes in society and the economy that undermine the informal arrangements important for networks.

- Transition in Russia had large impacts on the social capital of the older population

Augmented Human Capital of the Elderly

- New concept is that the human capital function contains the important productivity-related EW element together with variables (Income Security (IS), Health Status (HS), and Enabling Environment, especially social capital (EE)) that affect the ability of a person or population to make contributions to the economy and society.

- The relationship between Augmented Human Capital (AHC) and the four dependent variables is shown in the following equation:

$$AHC = f(EW, IS, HS, EE)$$

- It should be noted that in older age, EW and IS have been determined by past actions and are largely fixed and EE depends on external factors. So HS is the main household-related determinant of production by the elderly using their human capital.

Changes in AHC of the Elderly in Russia Relative to Components in Different Time Periods

Changes	1965-1991	1992-1998	1999-2014	2015-2020
$\dfrac{\partial AHC}{\partial EW}$	+	+	+	Projected: +
$\dfrac{\partial AHC}{\partial IN}$	1970-88: + 1989-91: -	-	+	Projected: +
$\dfrac{\partial AHC}{\partial HS}$	1970-85: - 1986-88: + 1989-91: -	-	1999-2013: - 2003-2014: +	Projected: +
$\dfrac{\partial AHC}{\partial EE}$	+	-	+	Projected: +
Total Change of AHC	Low Positive?	Negative?	Medium Positive?	Projected Postive

UNDP Human Development Index
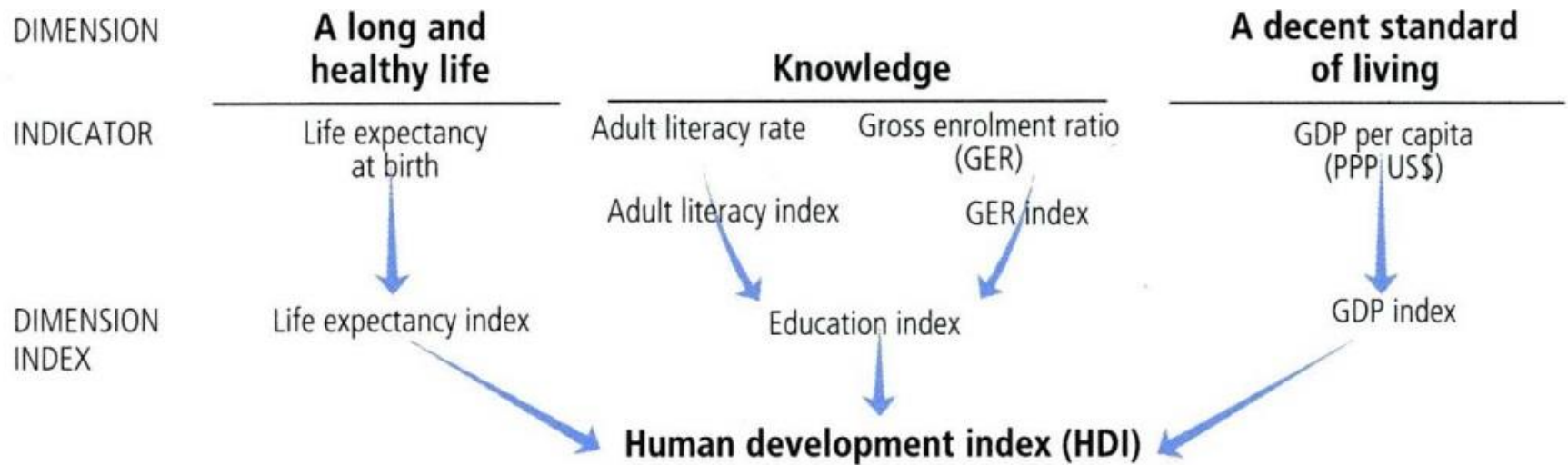
UNDP Calculations Using Normalization and Geometric Mean

- Convert original values into positive numbers with ascending values (higher is better)

- Then use Geometric Mean to calculate aggregate index because it better copes (than an arithmetic mean) with different scales of indicators being compared:

  - *The geometric mean decreases the level of substitutability between dimensions being compared and at the same time ensures that a 1 percent decline in say life expectancy at birth has the same impact on the HDI as a 1 percent decline in education or income.*

HDI Calculation 1: Normalization and Standardization

- Minimum and maximum values are established for each indicator and normalized so the range varies between 0 and 1.

- Dimension Sub-Indexes are calculated:

$$Dimension\ SubIndex = \frac{Actual\ Value - Minimum\ Value}{Maximum\ Value - Minimum\ Value}$$

- This gives Dimension Indexes for Life Expectancy (DI_{Life}) and Income (DI_{Income})

HDI Calculation 2:
Unweighted Geometric Mean
of Education Sub-Indexes

- The two education sub-indexes are aggregated into the Education Dimension Index ($DI_{Education}$) using the geometric mean, which measures the central tendency of a set of n numbers by using the nth root of product of their values:

$$Geometric\ Mean = \left(\prod_{i=1}^{n} a_i\right)^{1/n} = \sqrt[n]{a_1 a_2 \ldots a_3}$$

- An advantage of the GM is that is can aggregate indicators of different scales so that 1% increases in two different indicators will have the same impacts on the aggregate index.

HDI Calculation 3:
Unweighted Geometric Mean
of Three Dimension Indexes

- The final step is to calculate the geometric means of the three Dimension indexes:

$$HDI = \left(I_{Life} \times I_{Inc} \times I_{Edu}\right)^{1/3} = \sqrt[3]{I_{Life} \times I_{Inc} \times I_{Edu}}$$

- The HDI has a range from 0 to 1 expressed to three decimal points, 0.000 to 1.000.

World Economic Forum Human Capital Index

- The *HCI* measures human capital using indicators in four Dimensions:

- *Education*:
    - indicators relating to quantitative and qualitative aspects of education (primary, secondary and tertiary levels), as well as to the present and future workforce

- *Health and Wellness*:
    - indicators relating to a population's physical and mental well–being across the life-cycle;

- *Workforce and Employment*:
    - indicators measuring the experience, talent, knowledge and training in a country's working–age population; and

- *Enabling Environment*:
    - indicators concerning the legal framework, infrastructure and other factors that enhance returns on human capital.

Structure of the WEF Human Capital Index

Dimension	Sub–Dimension
1: Education	Access: 4 Indicators
	Quality: 5
	Attainment: 3
2: Health and Wellness	Survival: 3
	Health: 6
	Well–being: 2
	Services: 3
3: Workforce and Employment	Participation: 5
	Talent: 9
	Training: 2
4: Enabling Environment	Infrastructure: 3
	Collaboration: 2
	Legal framework: 3
	Social mobility: 1

Calculation of the HCI

- Indicator data on different scales are standardized using the Z–score statistic
- Z-scores of a data point (X_i) assume the distribution of data is normal with a mean (μ) of zero and a standard deviation (σ) and are calculated using the following formula:

$$Z\ Score = \frac{X_i - \mu}{\sigma}$$

- All data points above the mean are positive z-scores, and below are negative
- The four Dimension indexes are the unweighted average of the z-scores of its indicators.
- The *WEF HCI* for a country is the unweighted average of the four Dimension scores.

HelpAge Global AgeWatch Index

Global AgeWatch Index

Domains

1. Income security	2. Health status	3. Employment and education	4. Enabling environment

Indicators

1.1 Pension income coverage	2.1 Life expectancy at 60	3.1 Employment of older people	4.1 Social connections
1.2 Poverty rate in old age	2.2 Healthy life expectancy at 60	3.2 Educational status of older people	4.2 Physical safety
1.3 Relative welfare of older people	2.3 Psychological wellbeing		4.3 Civic freedom
1.4 GDP per capita			4.4 Access to public transport

Direct "outcome" indicators of older people's wellbeing

Proxy of enabling attributes/ capabilities of older people

Enabling social environment of society

Calculating Indexes using Normalization, Weighted Geometric Mean, and Geometric Mean

- Convert indicators so they have positive numbers with ascending values

- Normalize the values to form an index

- Calculate the Weighted Geometric Mean of the 4 Domain indicators to obtain Domain Index

- Numbers $X = \{x_1, x_2 \ldots, x_n\}$ Weights $W = \{w_1, w_2, \ldots, w_n\}$

$$\bar{x} = \left(\prod_{i=1}^{n} x_i^{w_i}\right)^{1/\sum_{i=1}^{n} w_i} = \exp\left(\frac{\sum_{i=1}^{n} w_i \ln x_i}{\sum_{i=1}^{n} w_i}\right)$$

- Use Geometric Mean to obtain Country Index

Example of Calculation of Income Indexes for Russia: 1990-2020

Income Security	1.1 Pension income coverage	1.2 Poverty rate in old age	1.3 Relative welfare of the elderly	1.4 GDP per capita	1.1 Pension income coverage	1.2 Poverty rate in old age	1.3 Relative welfare of the elderly	1.4 GDP per capita	1.1 Pension income coverage	1.2 Poverty rate in old age	1.3 Relative welfare of the elderly	1.4 GDP per capita	Weighted Income security index (Using the following weights for 1.1, 1.2, 1.3, and 1.4: 40%-20%-20%-
	Raw data				Adjusted				Normalised				Value
Russia 10	154.6	13.8	46.9	14159.35	100.0	86.2	46.90	14,159	100	71.83673	2.923077	69.95866	42.99378
Russia 90	100	10	47	14000	100.0	90.0	47.00	14,000	100	79.59184	3.076923	69.68917	44.30269
Russia 92	100	30	45.5	12000	100.0	70.0	45.50	12,000	100	38.77551	0.769231	66.01865	28.76446
Russia 00	100	20	45.2	10000	100.0	80.0	45.20	10,000	100	59.18367	0.307692	61.67736	25.70922
Russia 20	100	10	60	17000	100.0	90.0	60.00	17,000	100	79.59184	23.07692	74.31225	67.14619
Sweden	116.1	9.3	89	34125.35	100.0	90.7	89.00	34,125	100	81.02041	67.69231	90.90454	87.00493

Note: The calculations in this table were made for illustrative purposes using both actual data and rough estimates of missing values and therefore are not ready for dissemination.

I would like to thank colleagues involved in the Global AgeWatch project for providing me with the all-country data and formulas that helped me to make the calculations shown above for the GAW Index for Russia, as well as with more general advice.

Elderly in the USSR/RSFSR: 1965-1991

- Politico-Economic Environment
- Demography
- Income of Elderly
- Education of Elderly
- Enabling Environment of Elderly
- Health of Eldery
- AgeWatch Index for Elderly in 1990

Status of the Elderly in Russia Modified GAW Index in 1990

MGAWI of Russia: 1990																	
Year	Index value	I. INCOME SECURITY INDEX	Pension income coverage	Poverty rate (relative definition) in old age	Relative welfare of the elderly	GDP per capita	II. HEALTH STATUS INDEX	LE60	HALE60	Mental well-being (relative)	III. EMPLOYMENT/EDUCATION INDEX	Education	Employment	IV. ENABLING ENVIRONMENT INDEX	Social Connectedness	Safe Walking Alone	Freedom in Your Life	Roads and Highways
1990	31.1	44.3	100	10	47	14000	31.2	17.7	13.6	80	48.8	78	40	44.4	85	35	40	35
1995	11.9	28.7	100	30	46	8820	24.4	17.2	13.3	70	48.2	80	39	45.2	80	30	38	28
2000	15.7	25.7	100	20	45	9520	16.7	16.3	13	65	51.3	82	41	40.0	75	25	42	26
2010	30.8	42.9	100	14	47	14280	31.3	18.0	14	75	55.7	85	43	44.4	82	33	48	30
2020	52.1	67.1	100	10	60	17000	42.1	20.0	15	75	59.2	88	46	55.5	88	50	54	40

Note: The calculations in this table were made for illustrative purposes using both actual data and rough estimates of missing values and therefore are not ready for dissemination.

Elderly in Russia: 1992-2000

- Politico-Economic Environment

- Demography

- Income of Elderly

- Education of Elderly

- Enabling Environment of Elderly

- Health of Elderly

- AgeWatch Index for Elderly in 1992 and 2000

Elderly in the Russian Federation, 1990-1999

Indicator	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Total Population	Millions (Beginning of Year)	147.7	148.2	148.5	148.6	148.4	148.5	148.3	148.0	147.8	147.5
Population 60 Years and Older: Total	Millions	23.2			24.8	24.6	24.6	24.7	25.1	25.8	26.4
Elderly (60 and Older) Share of Total Population	%	15.8			16.7	16.7	16.6	16.8	17.1	17.6	18.1
Elderly (60 and Older) Share of Male Population	%	NA			11.8	11.8	11.8	12.0	12.3	12.8	13.3
Elderly (60 and Older) Share of Female Population	%	NA			21.1	21.0	20.9	21.0	21.3	21.8	22.3
Women Per 100 Men (60-64 years)	Number	148.7	142.4		138.3	138.5	139.3	138.6	139.3	138.2	139.0

Cohort 1 of the Elderly in Russia: 60 in 1995

Year Age 60	Year of Birth	Childhood (0-10)	Young Adult (18-30)	Elderly (60-)
1995	1935	Stalin FYPs; Collectivization; Famine; Low SOL, Education, Medical Care	Late Stalin; Arms Buildup; Famine; Low SOL; Improving Education, Medical Care	Break-up USSR and Economic Collapse; Loss of Savings; Declines in Real Pensions, Health Expenditure (HE) and Medical Care

Russia Real GDP Index (1989=100)

■ Russia ■ Average, transition countries
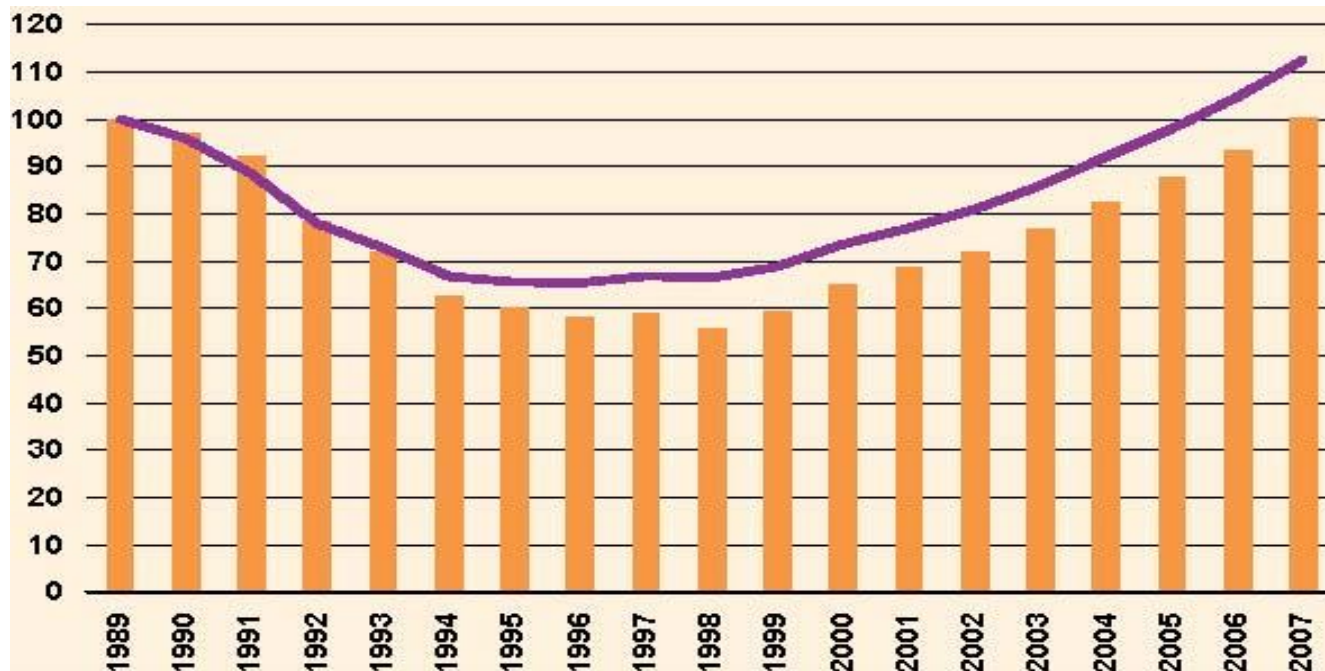
Russian Mortality Rises, 1990-99

Indicator	Units	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Mortality and Invalidity											
Crude Death Rate	Deaths per 1000	11.2	11.4	12.2	14.5	15.7	15.0	14.2	13.8	13.6	14.7
Male 40-44 Years Death Rate	Deaths per 1000	7.6	8.0	9.8	13.3	15.2	14.1	12.2	10.6	10.2	11.5
Male Death Rate from Murder	Deaths per 100000	23.2	24.9	37.6	49.5	52.6	49.5	42.2	37.5	35.9	NA
Cancer Death Rate	Deaths per 100000	191.8	195.5	199.7	204.6	204.5	200.8	198.3	199.9	202.5	205.0
Circulatory Disease Death Rate	Deaths per 100000	617.4	620.0	646.0	768.9	837.3	790.1	758.3	751.1	748.8	815.7
Maternal Mortality	Deaths per 100000 Births	47.4	52.4	50.8	51.6	52.3	53.3	48.9	50.2	44.0	44.2
Infant Mortality	Deaths per 1000 Live Births	17.4	17.8	18.0	19.9	18.6	18.1	17.4	17.2	16.5	16.9
Male Life Expectancy at Birth	Years	63.8	63.5	62.0	58.9	57.6	58.3	59.8	60.8	61.3	59.9

MGAWI of Russia: 1995

Year	Index value	I. INCOME SECURITY INDEX	Pension income coverage	Poverty rate (relative definition) in old age	Relative welfare of the elderly	GDP per capita	II. HEALTH STATUS INDEX	LE60	HALE60	Mental well-being (relative)	III. EMPLOYMENT/EDUCATION INDEX	Education	Employment	IV. ENABLING ENVIRONMENT INDEX	Social Connectedness	Safe Walking Alone	Freedom in Your Life	Roads and Highways
1990	31.1	44.3	100	10	47	14000	31.2	17.7	13.6	80	48.8	78	40	44.4	85	35	40	35
1995	11.9	28.7	100	30	46	8820	24.4	17.2	13.3	70	48.2	80	39	45.2	80	30	38	28
2000	15.7	25.7	100	20	45	9520	16.7	16.3	13	65	51.3	82	41	40.0	75	25	42	26
2010	30.8	42.9	100	14	47	14280	31.3	18.0	14	75	55.7	85	43	44.4	82	33	48	30
2020	52.1	67.1	100	10	60	17000	42.1	20.0	15	75	59.2	88	46	55.5	88	50	54	40

Note: The calculations in this table were made for illustrative purposes using both actual data and rough estimates of missing values and therefore are not ready for dissemination.
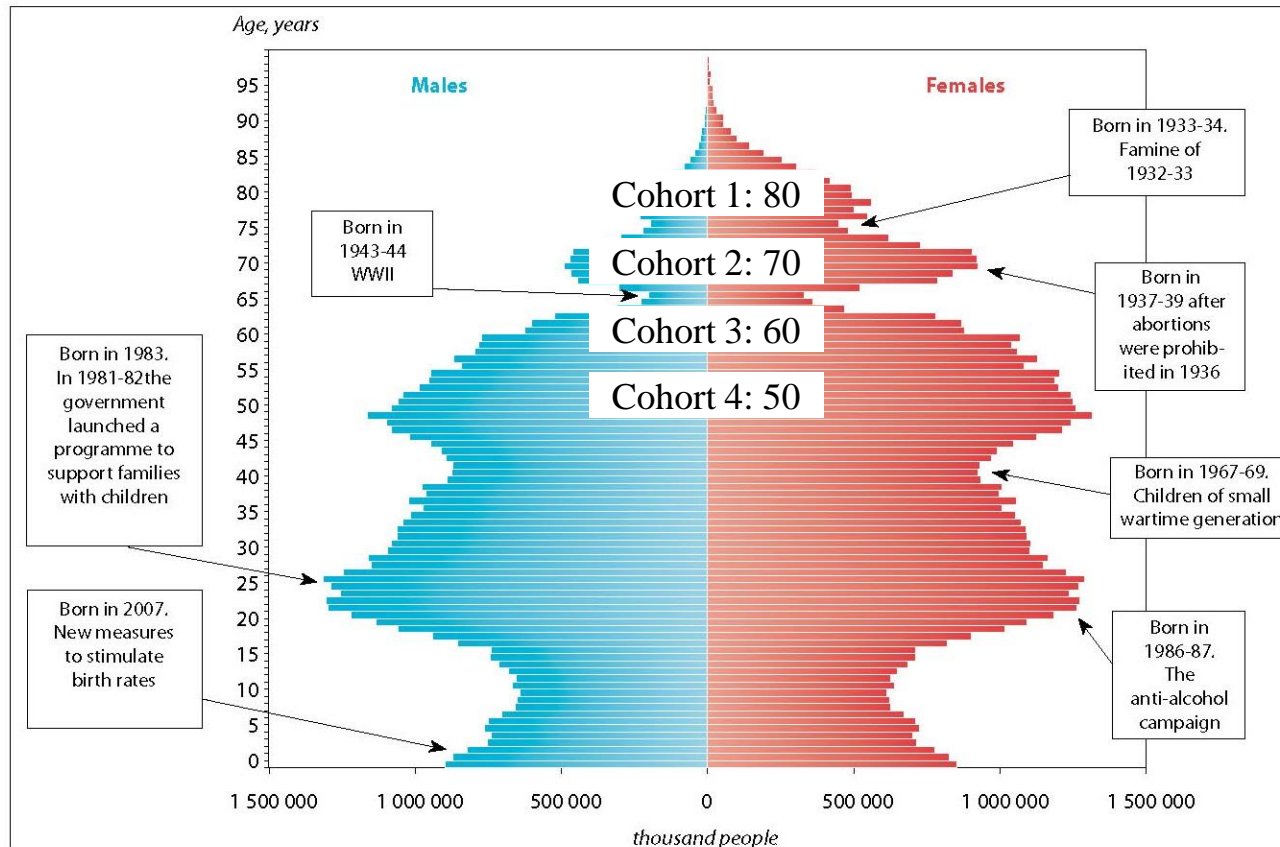
Elderly in Russia: 2000-2010

- Politico-Economic Environment
- Demography
- Income of Elderly
- Education of Elderly
- Enabling Environment of Elderly
- Health of Elderly
- AgeWatch Index for Elderly in 2010

Demographic Developments Related to the Elderly in Russia, 2000-2010

Indicator	Units	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Population	Millions (Begin Year)	146.9	146.3	145.6	145.0	144.2	143.4	142.8	142.2	142.0	141.9	142.9
Population 60 Years and Older: Total	Millions	26.9	27.1	27.2	26.6	25.7	24.9	24.3	24.5	24.5	24.7	24.7
Elderly (60 and Older) Share Total Population	%	18.5	18.7	18.9	18.3	17.8	17.3	17	17.1	17.2	17.4	17.8
Elderly (60 and Older) Share Male Population	%	13.7	13.7	13.7	13.7	13.1	12.7	12.4	12.4	12.6	12.7	13.0
Elderly (60 and Older) Share Female Population	%	22.9	22.9	22.9	22.9	21.9	21.4	21	21.1	21.3	21.4	21.8
Women Per 100 Men (60-64 years)	Number	140.7	142.6	144.6	147.3							

Russian Age Pyramid and Cohorts of the Elderly in 2010

Figure 1. Age and gender structure of the Russian population as of early 2010

Cohort 2 of the Elderly in Russia: 60 in 2000

Year Age 60	Year of Birth	Childhood (0-10)	Young Adult (18-30)	Elderly (60-)
2000	1940	World War II; Late Stalin; Arms Buildup; Famine; Low SOL; Improving Education, Medical Care	Post-Stalin; Improving SOL, Education, Medical Care	Economic Recovery and GFC; Rises in Real Pensions, HE, Medical Care and Welfare Services

Cohort 3 of the Elderly in Russia: 60 in 2010

Year Age 60	Year of Birth	Childhood (0-10)	Young Adult (18-30)	Elderly (60-)
2010	1950	Peacetime Post-Stalin; Improving SOL, Education, Medical Care	Brezhnev Stability/ Stagnation; Improving SOL, Education, Medical Care	Post-GFC Recovery; Rises in Real Pensions, HE, Medical Care and Welfare Services

MGAWI of Russia: 2000, 2010

MGAWI of Russia: 2000, 2010																		
Year	Index value	I. INCOME SECURITY INDEX	Pension income coverage	Poverty rate (relative definition) in old age	Relative welfare of the elderly	GDP per capita	II. HEALTH STATUS INDEX	LE60	HALE60	Mental well-being (relative)	III. EMPLOYMENT/EDUCATION INDEX	Education	Employment	IV. ENABLING ENVIRONMENT INDEX	Social Connectedness	Safe Walking Alone	Freedom in Your Life	Roads and Highways
1990	31.1	44.3	100	10	47	14000	31.2	17.7	13.6	80	48.8	78	40	44.4	85	35	40	35
1995	11.9	28.7	100	30	46	8820	24.4	17.2	13.3	70	48.2	80	39	45.2	80	30	38	28
2000	15.7	25.7	100	20	45	9520	16.7	16.3	13	65	51.3	82	41	40.0	75	25	42	26
2010	30.8	42.9	100	14	47	14280	31.3	18.0	14	75	55.7	85	43	44.4	82	33	48	30
2020	52.1	67.1	100	10	60	17000	42.1	20.0	15	75	59.2	88	46	55.5	88	50	54	40

Note: The calculations in this table were made for illustrative purposes using both actual data and rough estimates of missing values and therefore are not ready for dissemination.

Summary of AgeWatch Report Evaluation of Russia

AgeWatch report card: Russian Federation

Global AgeWatch rank

78
out of 91

Global AgeWatch value	Total population
30.8	**143.2 million**
Shows how near a country is to the ideal value of 100.	
Population over 60	**% of population over 60**
26.5 million	**18.6%**

Overview

The Russian Federation ranks the lowest regionally, at number 78 out of 91. It scores relatively well only in the employment and education domain, ranking 21.

Russia's low performance in the income security domain, at 69, especially when compared to all other former Soviet Union countries is not an indication that it is poorer overall. It is due to its low score in the inequality indicator within the income security domain.

This demonstrates that economic prosperity has resulted in widening gaps between older people and the rest of society. By 2050, approximately 31% of Russia's population will be aged 60 or over.

AgeWatch Russia: Income Security

Income security

Value: 43.0/100

Indicators data		What does this mean?
Pension coverage:	154.6	% people over 65 receiving a pension. (Percentage over 100 indicates that pension coverage starts before age 65.)
Old age poverty rate:	13.8%	% of people aged 60+ with an income of less than half the country's median income.
Relative welfare:	46.9	Average income/consumption of people aged 60+ as a % of average income/consumption of the rest of the population.
GDP per capita:	US$ 14,159.4	This is a proxy for standard of living of people within a country. It aims to provide comparison across countries.

AgeWatch Russia: Health Status

Health status

78

Value: 31.3/100

Indicators data		What does this mean?
Life expectancy at 60:	18 years	The average number of years a person aged 60 can expect to live.
Healthy life expectancy at 60:	13.8 years	The average number of years a person aged 60 can expect to live in good health.
Relative psychological/mental wellbeing:	75.0	% of people over 50 who feel their life has meaning compared with people aged 35-49 who feel the same. The indicator measures self-assessed mental well-being.

AgeWatch Russia: Employment and Education

Employment and education

Value: 55.7/100

Indicators data		What does this mean?
Employment of older people:	43.0%	% of the population aged 55-64 that are employed. The indicator measures older people's access to the labour market and their ability to supplement pension income with wages, and their access to work related networks. The employment rate is a proxy for the economic empowerment of older people.
Educational attainment:	85.0%	% of population aged 60+ with secondary or higher education.
		Education is a proxy of lifetime accumulation of skills and competencies that shows social and human capital potential inherent among older people.

AgeWatch Russia: Enabling Societies and Environment

Enabling societies and environment

90

Value: 44.4/100

Indicators data		What does this mean?
Social connections:	82%	% of people over 50 who have relatives or friends they can count on when in trouble.
Physical safety:	33%	% of people over 50 who feel safe walking alone at night in the city or area where they live.
Civic freedom:	48%	% of people over 50 who are satisfied with the freedom of choice in their life.
Access to public transport:	30%	% of people over 50 who are satisfied with the local public transportation systems.

Global AgeWatch Index for Russia and European Countries

Figure 15: Rankings and values for Europe
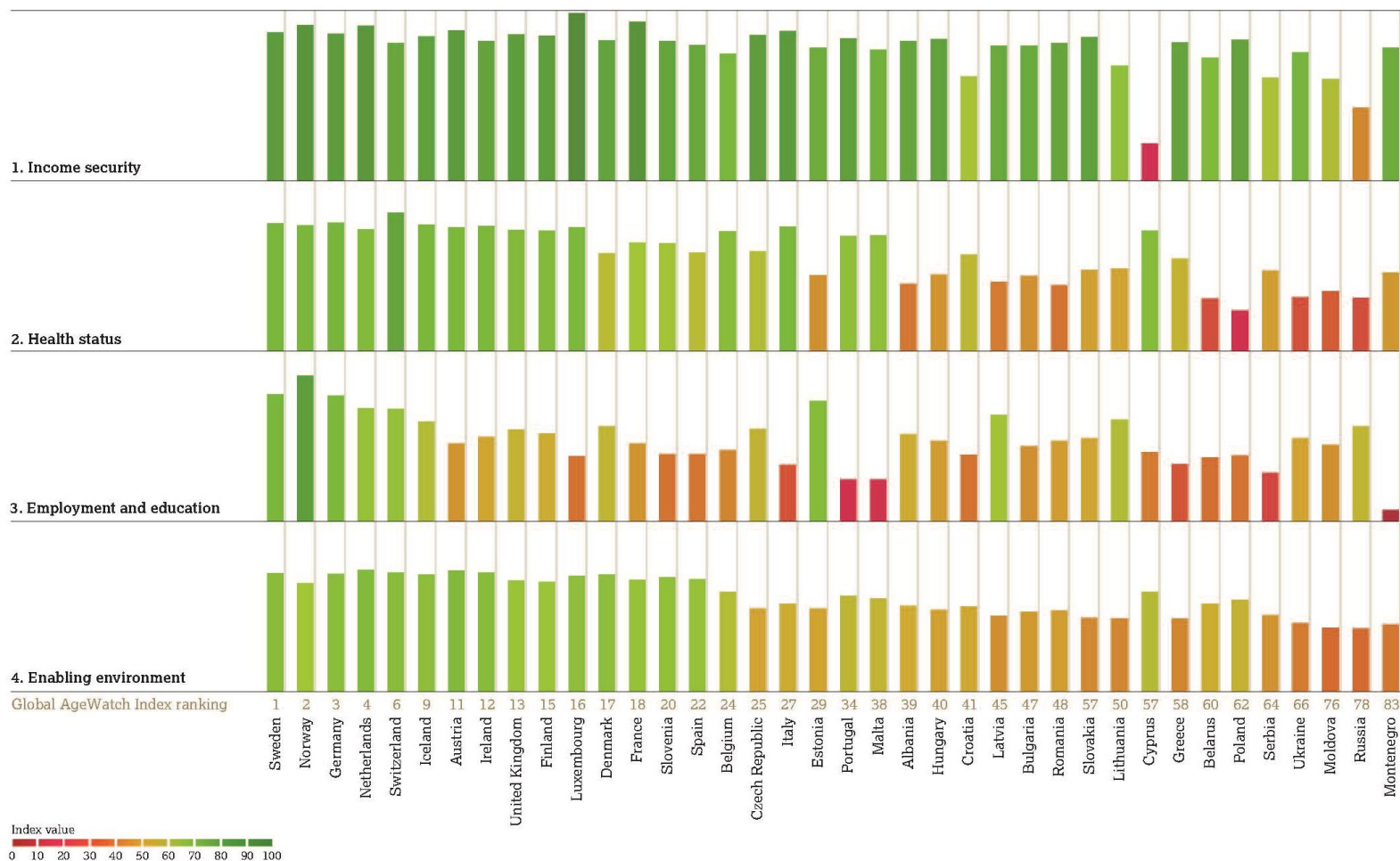
Global AgeWatch Index: Russia Ranked 78 out of 91

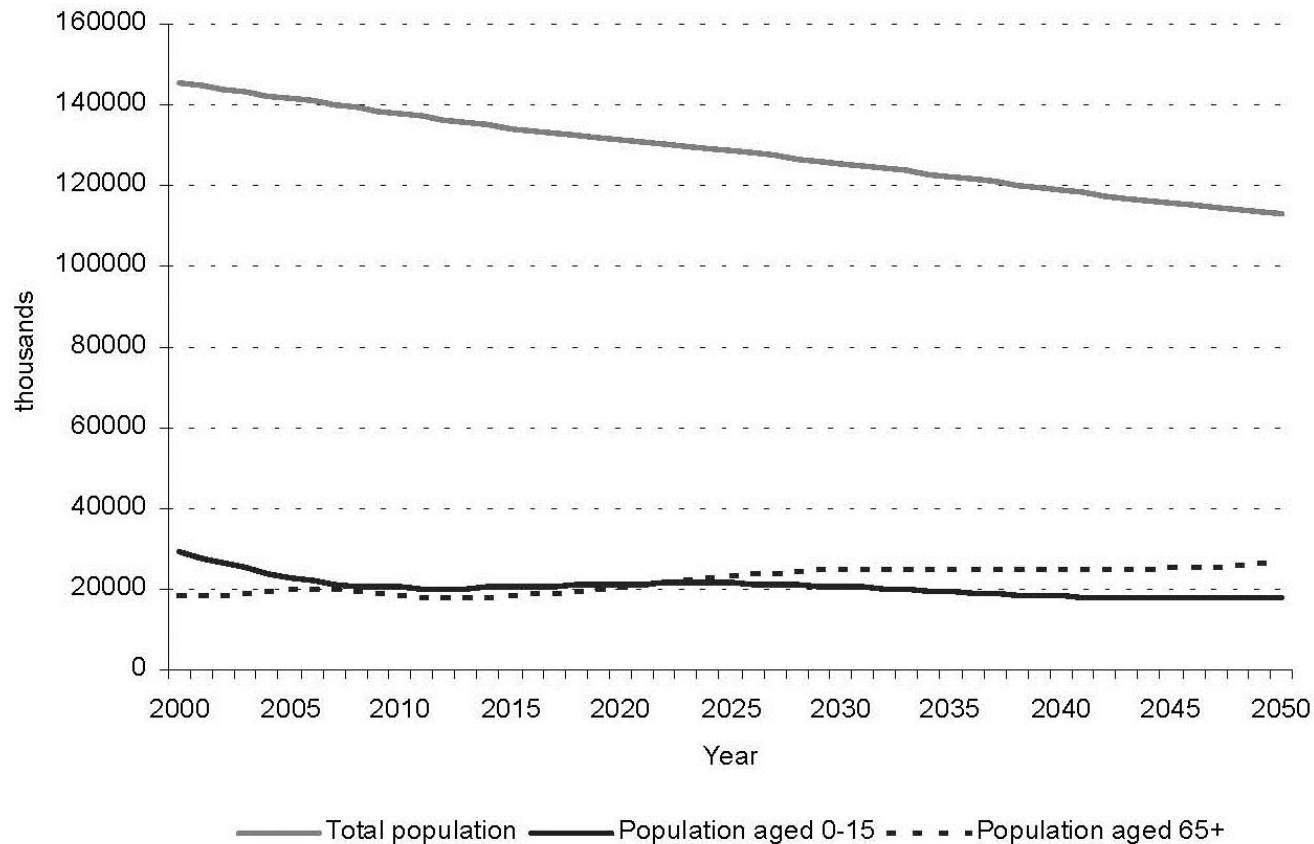|	Overall rank and value		Income security		Health status		Employment and education		Enabling environment	
	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Venezuela	61	46.2	63	49.4	28	67.7	64	32.6	74	54.0
Poland	62	45.9	20	82.6	87	23.9	54	38.8	43	64.8
Kyrgyzstan	63	44.3	49	66.8	83	27.5	26	51.7	70	56.3
Serbia	64	42.4	52	60.7	54	47.1	71	28.7	73	54.0
South Africa	65	41.0	46	69.2	74	33.2	60	34.2	75	53.7
Ukraine	66	40.2	39	75.3	77	31.8	35	48.7	86	48.3
South Korea	67	39.9	90	8.7	8	74.5	19	56.3	35	68.3
Dominican Rep.	68	39.3	79	22.3	49	52.3	69	31.3	45	64.2
Ghana	69	39.2	81	21.3	67	38.3	33	48.8	49	63.1
Turkey	70	38.1	30	79.7	66	38.3	84	14.5	60	58.7
Indonesia	71	37.9	83	16.7	65	38.5	59	35.6	20	76.6
Paraguay	72	35.0	86	15.0	44	55.8	53	38.9	66	57.6
India	73	35.0	54	59.4	85	24.4	73	27.9	72	56.1
Mongolia	74	34.8	38	75.7	89	20.6	56	38.3	85	51.3
Guatemala	75	34.0	77	23.5	50	52.1	81	17.7	47	63.5
Moldova	76	33.8	53	59.9	71	35.1	43	44.7	89	45.0
Nepal	77	33.7	62	49.9	82	29.4	79	22.0	69	56.5
Russia	78	30.8	69	43.0	78	31.3	21	55.7	90	44.4
Lao PDR	79	29.4	76	24.1	81	29.9	82	15.8	33	69.2
Cambodia	80	27.3	85	16.4	88	23.2	80	21.2	23	75.0
Morocco	81	26.6	71	39.0	76	31.8	83	14.7	84	51.4
Honduras	82	25.8	88	9.6	48	53.9	74	27.8	78	53.2
Montenegro	83	25.5	34	78.1	55	45.9	89	6.7	87	47.4
West Bank & Gaza	84	24.5	78	22.9	72	34.1	86	10.2	55	60.6
Nigeria	85	24.0	87	14.2	84	26.4	70	30.5	76	53.6
Malawi	86	17.8	89	9.5	86	24.1	85	13.9	63	57.8
Rwanda	87	16.6	82	19.0	90	19.3	90	5.3	38	67.2
Jordan	88	11.4	61	52.7	61	40.9	91	1.6	36	68.0
Pakistan	89	8.3	84	16.7	69	37.7	67	32	91	39.8
Tanzania	90	4.6	91	2.1	73	33.7	88	7.3	79	52.9
Afghanistan	91	3.3	75	24.2	91	7.6	87	9.4	88	46.2

Elderly in Russia: 2015-2020

- Politico-Economic Environment
- Demography
- Income of Elderly
- Education of Elderly
- Enabling Environment of Elderly
- Health of Elderly
- AgeWatch Index for Elderly in 2010

Cohort 4 of the Elderly in Russia: 60 in 2020

Year Age 60	Year of Birth	Childhood (0-10)	Young Adult (18-30)	Elderly (60-)
2020	1960	Economic Stability; Improving SOL, Education, Medical Care	Economic Stagnation; Perestroika; Instability; Improving SOL, Education, Medical Care	Slow Economic Growth; Rise in Real Pensions, HE, Medical Care and Welfare Services

UN Projection:
Population and Elderly in Russia

Figure 2. Population of Russia (Goskomstat of Russia Projections)

MGAWI of Russia: 2020

MGAWI of Russia: 2020																		
Year	Index value	I. INCOME SECURITY INDEX	Pension income coverage	Poverty rate (relative definition) in old age	Relative welfare of the elderly	GDP per capita	II. HEALTH STATUS INDEX	LE60	HALE60	Mental well-being (relative)	III. EMPLOYMENT/EDUCATION INDEX	Education	Employment	IV. ENABLING ENVIRONMENT INDEX	Social Connectedness	Safe Walking Alone	Freedom in Your Life	Roads and Highways
1990	31.1	44.3	100	10	47	14000	31.2	17.7	13.6	80	48.8	78	40	44.4	85	35	40	35
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MGAWI of Russia: 1990, 1995, 2000, 2010, 2020

Year	Index value	I. INCOME SECURITY INDEX	Pension income coverage	Poverty rate (relative definition) in old age	Relative welfare of the elderly	GDP per capita	II. HEALTH STATUS INDEX	LE60	HALE60	Mental well-being (relative)	III. EMPLOYMENT/EDUCATION INDEX	Education	Employment	IV. ENABLING ENVIRONMENT INDEX	Social Connectedness	Safe Walking Alone	Freedom in Your Life	Roads and Highways
1990	31.1	44.3	100	10	47	14000	31.2	17.7	13.6	80	48.8	78	40	44.4	85	35	40	35
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Note: The calculations in this table were made for illustrative purposes using both actual data and rough estimates of missing values and therefore are not ready for dissemination.

Elderly in Russia Evolving from Burden to Benefit During 1992-2020

- Health
  - *Life Expectancy at 60 has increased.*
  - *Slower progress in improving Healthy (Illness-Adjusted) Life Expectancy at 60*
- Education/Training
  - *Both educational attainment and level of skills training of the elderly have improved*
- Income
  - *Real income (pensions and earnings) of the elderly has risen substantially and poverty has been reduced*
- Enabling Environment
  - *Slow improvement, large lag behind OECD*