

# Fairness, Pensions, and the Characteristics Approach to the Study of Population Aging

Warren C. Sanderson

International Institute for  
Applied Systems Analysis

Stony Brook University

Delivered at the College of  
Population Studies,  
Chulalongkorn University

February 28, 2019

This  
presentation  
is based on  
joint research  
with Sergei  
Scherbov

- Funded by the European Research Council under the European Union's Seventh Framework Programme (FP7/2007-2013) under grant agreement No 323947. Project Name: Reassessing Aging from a Population Perspective, Re-Ageing.

-

**Russia Protest Activity Surges Over Pension Reform, Report Says**

**French pensioners tell Macron to stop squeezing their finances**

**Spain protests as pension cuts loom**

**Advocates for Thai Workers Threaten High Court Action if Israel Doesn't Implement Pension Deal**

**Police, firefighters stage rally in Warsaw over pay and pensions**

**Protests against pension reform in Belgium**

**Portugal: Thousands protest in Lisbon over labour law and pension changes**

**Vets protest across Canada for improved pensions**

**More protests in Austria and France over pensions**

**German pensions crisis is warning to rest of the world**

**Japan, short of workers, eyes hiking optional pension age beyond 70**

But what is it and how  
can it be avoided in the  
future?

Clearly, there is  
something wrong!

## About this presentation

- Why are there worldwide protests involving pensions?
- How countries that are developing or expanding their pension systems can avoid the mistakes of the past?

# Organization

- 1. A few words about me
- 2. Population aging and pension sustainability
- 3. The importance of **fairness** in the design of pension systems
- 4. The Characteristics Approach to the Study of Population Aging
- 5. Intergenerationally equitable pension ages in an environment of changing demography
- 6. Discussion

## A Few Words About Me

- I am a demographer and an economist.
- I am not an expert on pensions.
- I am not an expert on the situation in Thailand.
  
- I will talk about pensions plans at a high level of abstraction.
- The focus will be on how to design pension systems that citizens are proud of.

Population  
aging and  
pension  
sustainability

- [pension pillars.pdf](#)



# Population aging and pension sustainability

- Pension plans that have fixed ages at eligibility and fixed payout schedules are inherently unsustainable in an environment of ever lengthening lifetimes.

Population  
aging and  
pension  
sustainability

- Pension plans that have fixed ages at eligibility and fixed payout schedules in an environment of ever lengthening lifetimes are also unfair.

# Population aging and pension sustainability

- Unsustainability of pension plans leads to periodic crises.
- Older people are told that the crisis is somehow their fault for living so long and therefore, they should have to pay more or receive less.
- It is like saying that education has grown more expensive and therefore, countries should have fewer schools.
- It is like saying that health care has grown more expensive and therefore, sick people should be taxed more or receive less care.

The importance  
of  
intergenerational  
fairness in the  
design of  
pension systems

- Pension systems are based on agreements across generations.
- If those arrangement are unfair, it is difficult to sustain them.
- Poorly treated generations can eventually decide not to pay higher and higher pension taxes. Governments have difficulty with ever higher pension costs, in part, because younger generations refuse to be taxed enough to pay for them.



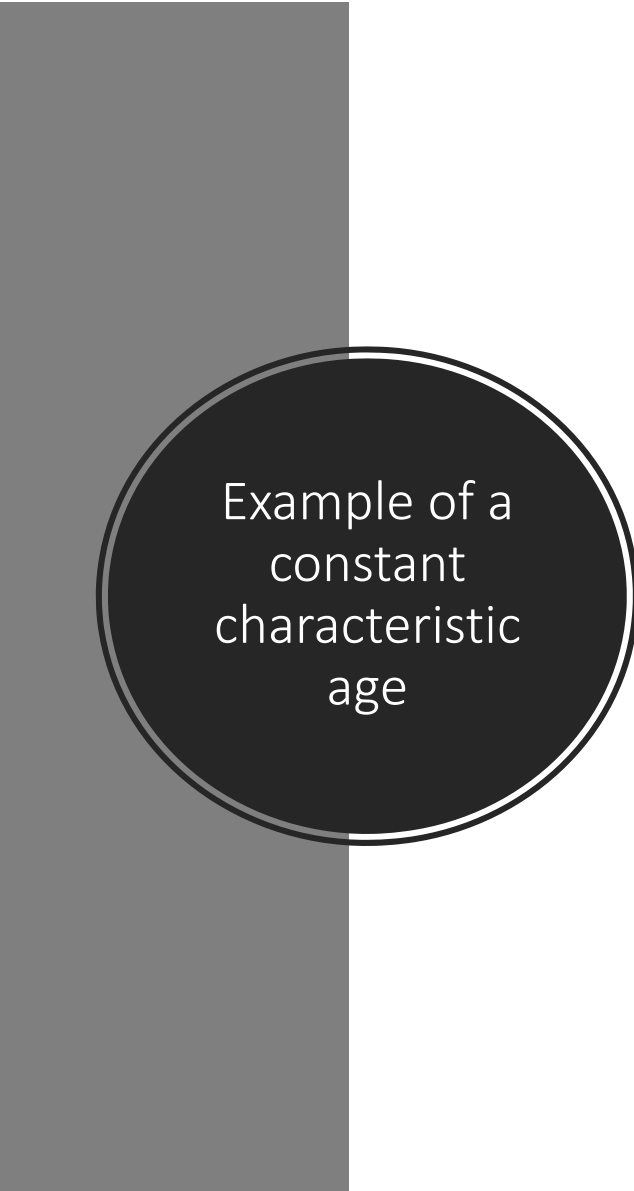
The  
Characteristics  
Approach to the  
Study of  
Population Aging

- Sergei Scherbov and I did not set out to study pensions. Our study of pensions happened somewhat accidentally.
- Our research was focused on developing a new paradigm for the study of population aging, one based on incorporating characteristics of people in addition to their chronological ages.
- In the course of that research, we advanced a new concept called *constant characteristic ages*.



The  
Characteristics  
Approach to the  
Study of  
Population Aging

- People have many characteristics including remaining life expectancy, handgrip strength, disability rates, scores on cognitive functioning tests and many others.



Example of a  
constant  
characteristic  
age

Remaining Life Expectancy	1972	1994	2014
29 years	Age 50	Age 56	Age 60

Table 2.3 Prospective ages based on a constant remaining life expectancy of 29 years,

Japanese women, 1972, 1994, and 2014

Source: Human Mortality Database (University of California, Berkeley and Max Planck Institute for

Demographic Research 2014)

## Pension ages as constant characteristic ages

- 
- **“The last decade has been a period of intense reform activity in the area of pensions... The most visible progress has been made in raising official pension ages. Many countries have been moving this key parameter beyond the mark of 65 years. As highlighted in previous editions of *Pensions at a Glance*, *67 has indeed become the new 65*, and several countries are going even further towards ages closer to 70.” (emphasis added)**
- (OECD, *Pensions at a Glance*, 2015, 9, 23, 25)



Intergenerationally  
equitable pension  
ages in an  
environment of  
changing  
demography

- Our definition of an intergenerationally equitable pension age is based on two principles:
- Principle 1: A group of people entering the pension system at age 20 would receive back in pension what they paid in. No money would be taken from any cohort to fund the pensions of any other cohort.
- Principle 2: The pension payment that people in each generation get is the same proportion of their incomes after their pension taxes. No generation will be favored by a particularly large pension payout compared to what they and others are paying in.







Intergenerationally equitable pension ages in an environment of changing demography

(1)	(2)	(3)	(4)	(5)	(6)
Life course ratio for 65-year-old women in 2013	Age at Life Course Ratio = 0.30 in	Age at Life Course Ratio = 0.30 in	Age at Life Course Ratio = 0.30 in	Age at Life Course Ratio = 0.30 in	Age at Life Course Ratio = 0.30 in
	2013	2020	2030	2040	2050
0.30	65	65.82	67.09	68.34	69.62

Table 12.2: Example of the determination of intergenerationally equitable normal pension ages for German women

Source: Sanderson and Scherbov (2015a, 206, Table 5a) and authors' calculations

Note: The example is based on the life course ratio of women who were 65-years-old in Germany in 2013.

<b>WOMEN, 2013=65</b>						
<b>Country</b>	<b>2013</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>Months per year</b>
Bulgaria	65.00	65.42	66.63	67.83	69.13	1.3
Czech Republic	65.00	66.00	67.49	69.00	70.41	1.8
France	65.00	65.65	66.88	68.03	69.28	1.4
Georgia	65.00	65.37	66.55	67.77	69.04	1.3
Germany	65.00	65.82	67.09	68.34	69.62	1.5
Greece	65.00	65.97	67.32	68.59	69.88	1.6
Ireland	65.00	65.68	66.86	68.07	69.31	1.4
Italy	65.00	65.65	66.89	68.13	69.37	1.4
Latvia	65.00	65.68	66.88	68.13	69.36	1.4
Russian Federation	65.00	65.37	66.46	67.50	68.58	1.2
Serbia	65.00	65.63	66.90	68.18	69.49	1.5
Slovakia	65.00	65.78	67.04	68.30	69.61	1.5
Spain	65.00	65.41	66.63	67.85	69.09	1.3
Sweden	65.00	65.70	66.90	68.14	69.40	1.4
UK	65.00	65.68	66.97	68.19	69.41	1.4
<b>AVERAGE</b>						1.4

<b>MEN, 2013=65</b>						
<b>Country</b>	<b>2013</b>	<b>2020</b>	<b>2030</b>	<b>2040</b>	<b>2050</b>	<b>Months per year</b>
Bulgaria	65.00	65.60	66.96	68.31	69.69	1.5
Czech Republic	65.00	65.99	67.58	69.16	70.61	1.8
France	65.00	66.09	67.52	68.74	70.02	1.6
Georgia	65.00	66.17	67.54	68.89	70.27	1.7
Germany	65.00	66.00	67.45	68.70	69.99	1.6
Greece	65.00	66.19	67.58	68.84	70.15	1.7
Ireland	65.00	65.56	66.71	67.89	69.10	1.3
Italy	65.00	65.57	66.84	68.14	69.40	1.4
Latvia	65.00	66.17	67.80	69.39	70.83	1.9
Russian Federation	65.00	65.69	67.33	68.81	70.22	1.7
Serbia	65.00	65.97	67.27	68.54	69.85	1.6
Slovakia	65.00	65.92	67.46	68.85	70.26	1.7
Spain	65.00	65.61	67.05	68.35	69.64	1.5
Sweden	65.00	65.66	66.87	68.07	69.34	1.4
UK	65.00	65.58	66.82	68.00	69.23	1.4
<b>AVERAGE</b>						1.6

- Intergenerationally equitable pension ages are based on a highly simplified framework.
- These pension ages indicate how fast pension ages should increase as survival rates change.
- They can be used as a basis for evaluating legislated changes in pension ages.
- They are based on easy to understand principles.
- They are fair.

## Discussion



- The use of intergenerationally equitable pension ages can help countries avoid the problems which have resulted in political unrest.
- Intergenerationally equitable pension ages can help keep pension systems sustainable.
- Intergenerationally equitable pension ages can help keep older generations from voting themselves unfair pensions.

## Discussion

- Informal labor markets:
- This is usually dealt with using non-contributory pensions. It can also be dealt with by allowing people who work in the informal sector to contribute to the national pension system. The ratio of benefits to the amount paid into pension systems can be made progressive, providing people in the informal sector with an incentive to save through the national pension system.

Discussion -  
problems

- Fixed -pension ages:
- People should be allowed to take their pensions whenever they want after some minimum age. Pension amounts would be adjusted according to the age at which the pension is taken.
- Compensating people with low life expectancies:
- This is tricky. This compensation is often done through non-contributory pensions.

## Discussion - problems

- Surprise changes in pension arrangements:
- Surprise changes should be avoided. Changes in pension arrangements should occur slowly and in a transparent manner. Large, unpredicted changes bring people out in protest.

Discussion -  
problems

- People should discuss the principles upon which a desirable pension system is based.
- If people agree that a pension system should be fair across generations, then there will be slow and reasonably predictable changes in pension ages. This will result in sustainable pension systems.
- We adjust pension amounts for price inflation. We should also adjust pension ages for age inflation.

---

Discussion – avoiding the mistakes of the past

