

Economic consequences of ageing

Shakespeare's seven ages of life begin with youth and progress through old age, which he describes as a period in oblivion, our senses largely gone

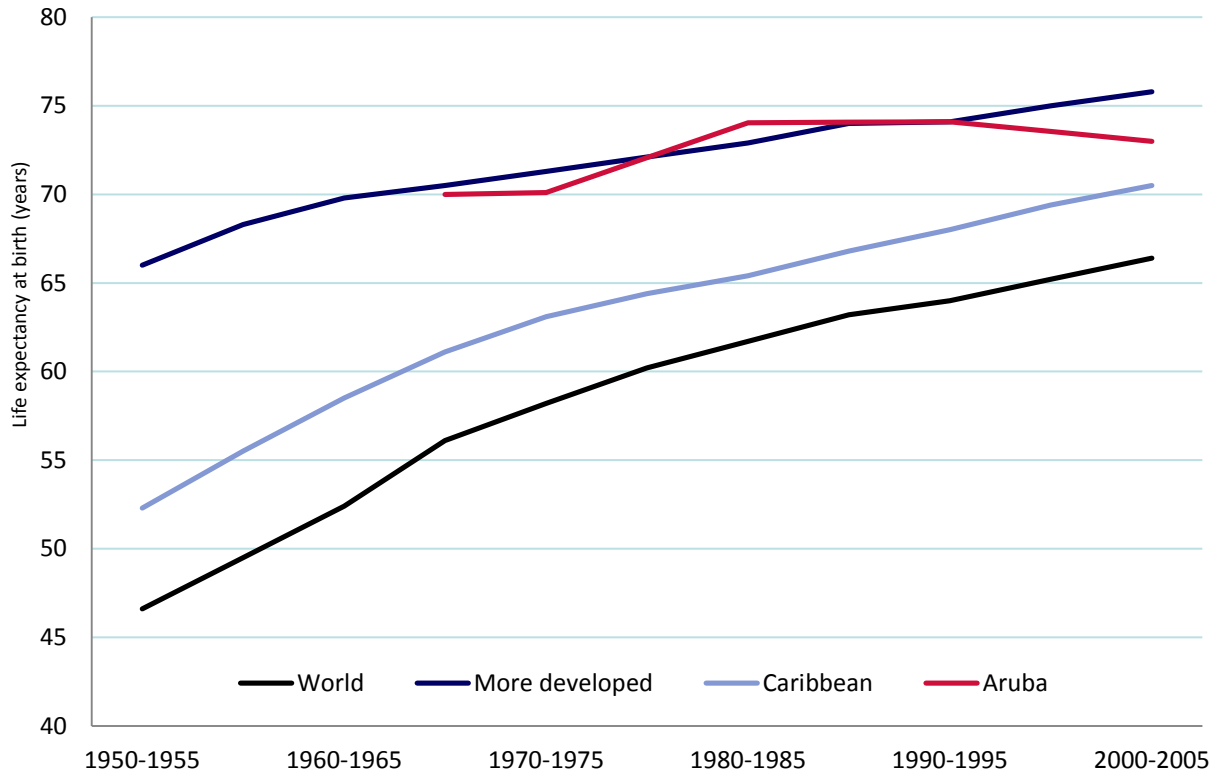


According to this 91-year old lady, retirement is the beginning of life - not the end



Raising life expectancy

Life expectancy
World, development regions, Caribbean and Aruba, 1950-2010



Period	1965-1970	2005-2010
World	56.1	67.6
Developed	70.5	77.1
Caribbean	61.1	71.7
Aruba	70.0	?

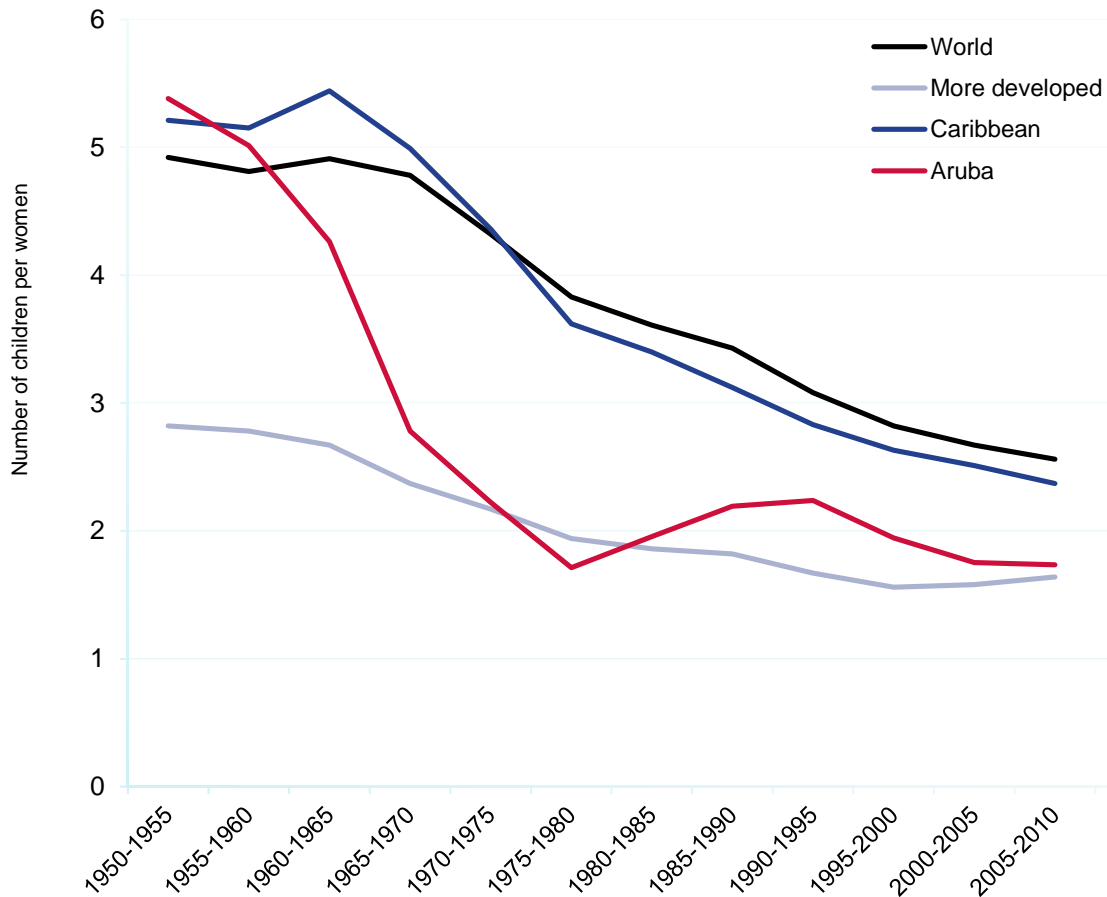
Ageing has to do with:

- declining fertility-rates
- increasing life expectancy



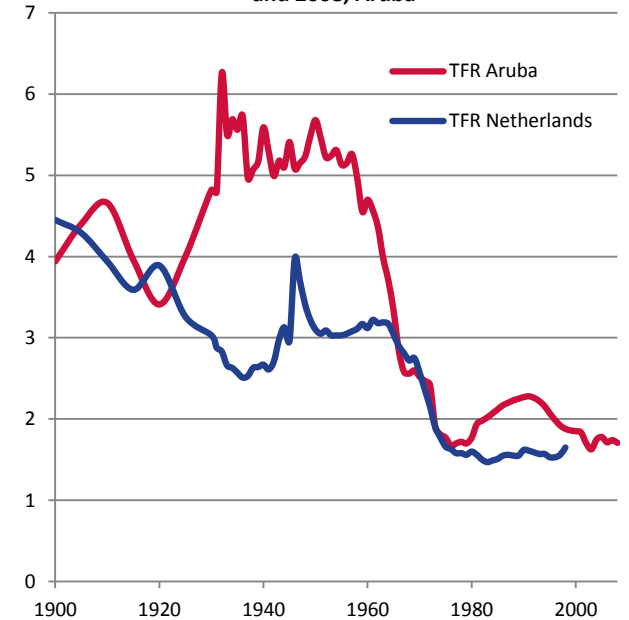
Dropping fertility rates

Total fertility rate:
World, development regions, Caribbean and Aruba, 1950-2010



Period	1950-1955	2005-2010
World	4.9	2.6
Developed	2.8	1.6
Caribbean	5.2	2.4
Aruba	5.4	1.7

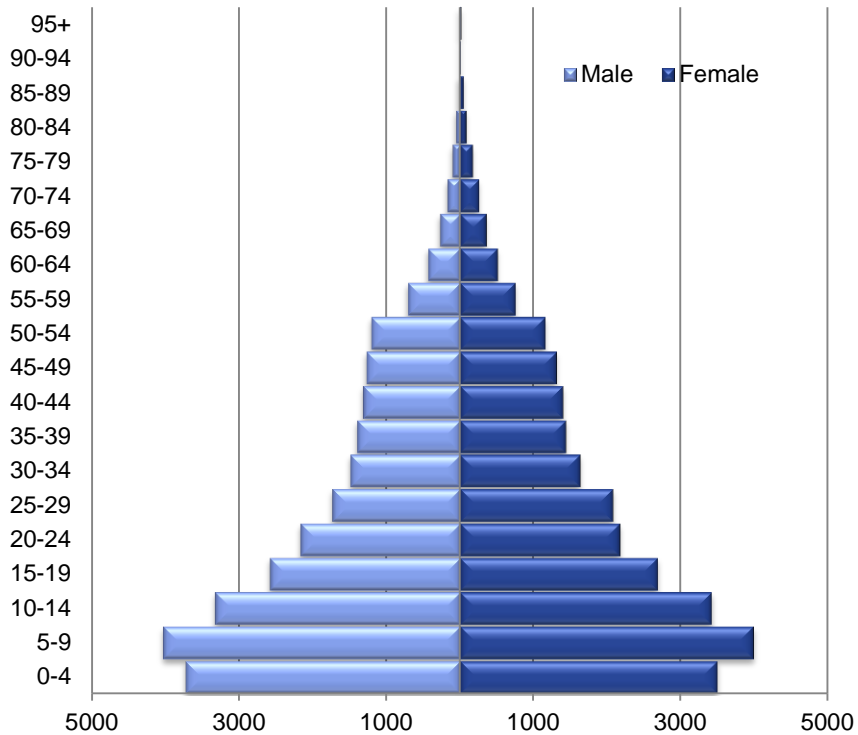
The course of the Total Fertility Rate between 1900 and 2008, Aruba





Changing population structures

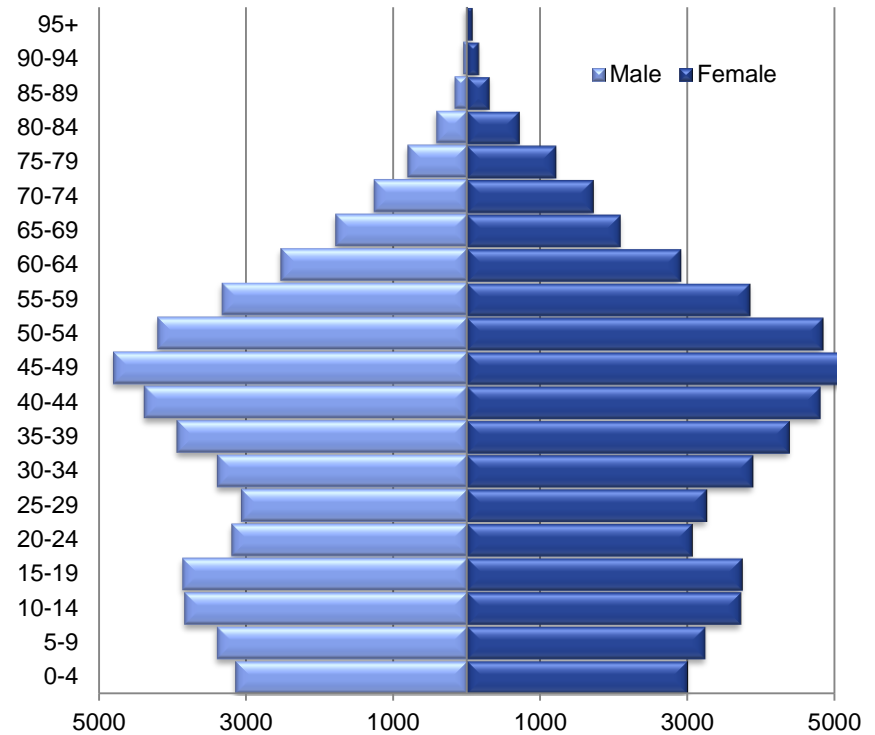
Population Pyramid 1960



Source: CBS,
Census 1960

x1000

Population Pyramid 2010



Source: CBS,
Census 2010

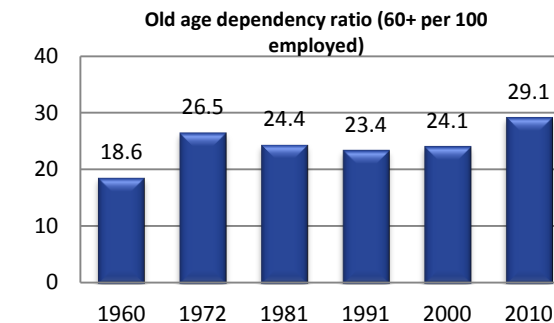
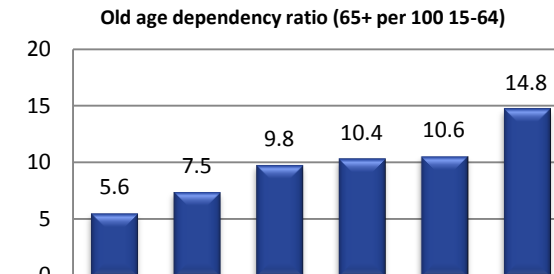
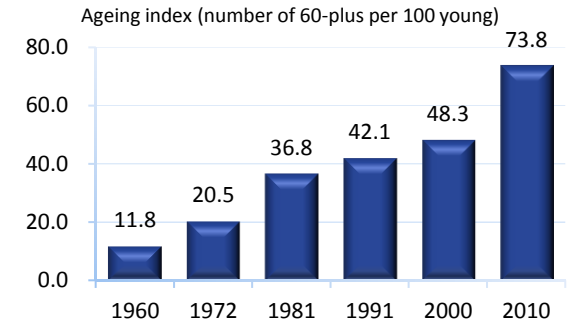
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Indicators of ageing

Age	1960	1972	1981	1991	2000	2010	2023
0-14	22003	21016	15615	16263	20887	20327	27151
15-60	28592	32591	38953	43438	59163	71199	88749
15-64	29550	34331	40704	45564	62637	76636	97515
60+	2,604	4,301	5,744	6,845	10,097	16,275	27,476
65+	1,646	2,561	3,993	4,719	6,624	10,838	18,710
80+	284	341	560	1,101	1,307	1,949	4,411
Total	53,199	57,908	60,312	66,546	90,147	107,801	143,377
0-14	41.4	36.3	25.9	24.4	23.2	18.9	18.9
15-60	53.7	56.3	64.6	65.3	65.6	66.0	61.9
15-64	55.5	59.3	67.5	68.5	69.5	71.1	68.0
60+	4.9	7.4	9.5	10.3	11.2	15.1	19.2
65+	3.1	4.4	6.6	7.1	7.3	10.1	13.0
80+	0.5	0.6	0.9	1.7	1.4	1.8	3.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Ageing index	11.8	20.5	36.8	42.1	48.3	80.1	101.2
Youth dependency ratio	74.5	61.2	38.4	35.7	33.3	26.5	27.8
Old-age dependency ratio	5.6	7.5	9.8	10.4	10.6	14.1	19.2
Total dependency ratio	80.0	68.7	48.2	46.0	43.9	40.7	47.0
Potential Support Ratio (PSR)	18.0	13.4	10.2	9.7	9.5	7.1	5.2
Parent Support Ratio	0.1	0.1	0.1	0.1	0.1	0.1	0.2
Sex Ratio	96.5	96.3	94.7	97.0	92.2	92.0	82.6

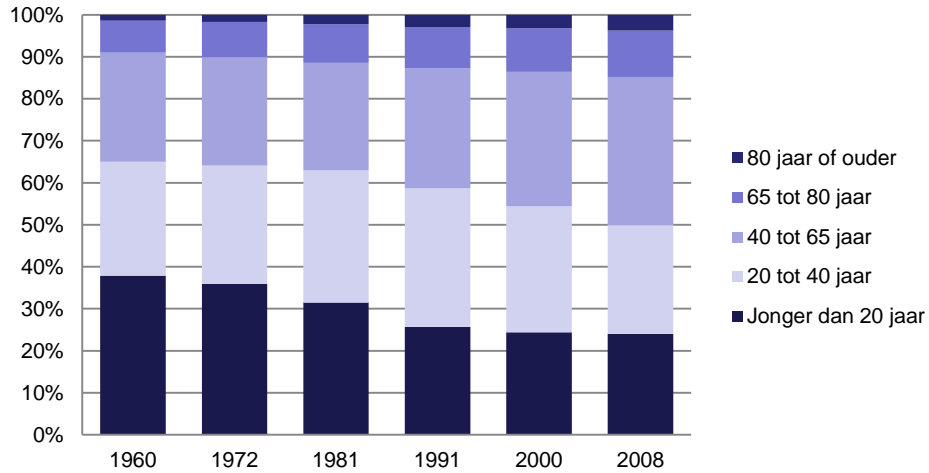
Source: Population and Housing Census 1961 - 2010



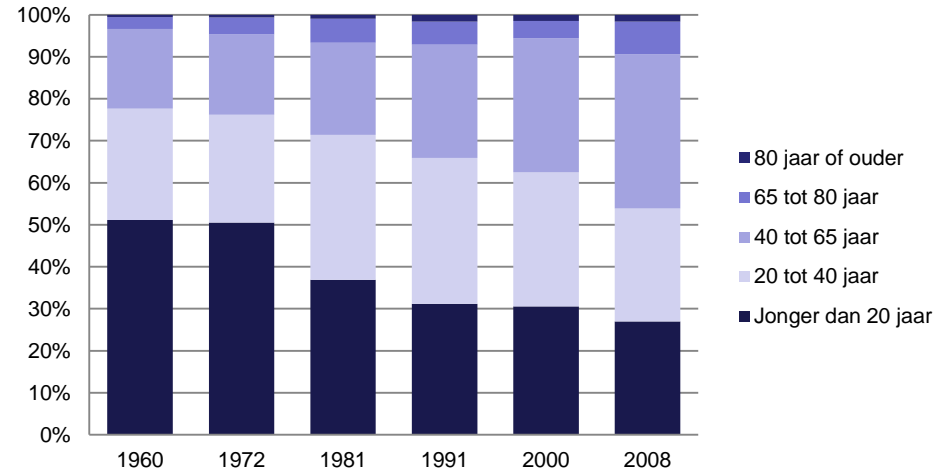


Indicators of ageing, Netherlands & Aruba

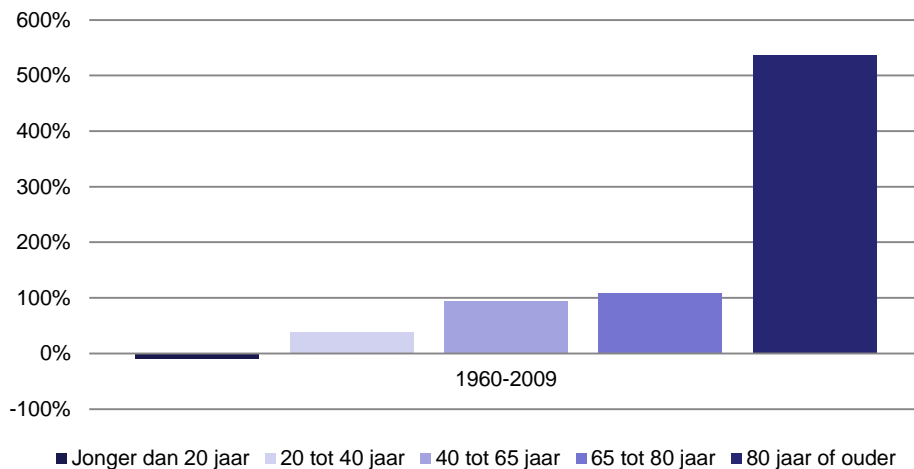
Demographic Developments Netherlands



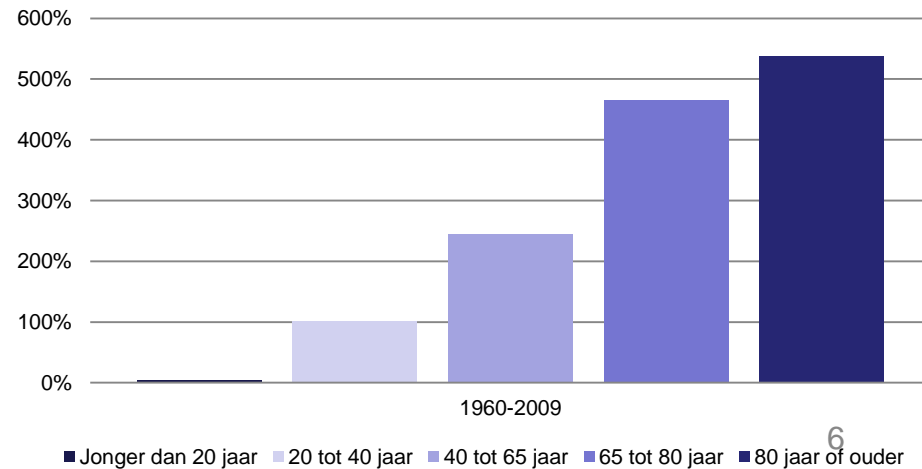
Demographic Developments Aruba



Demographic Developments Netherlands

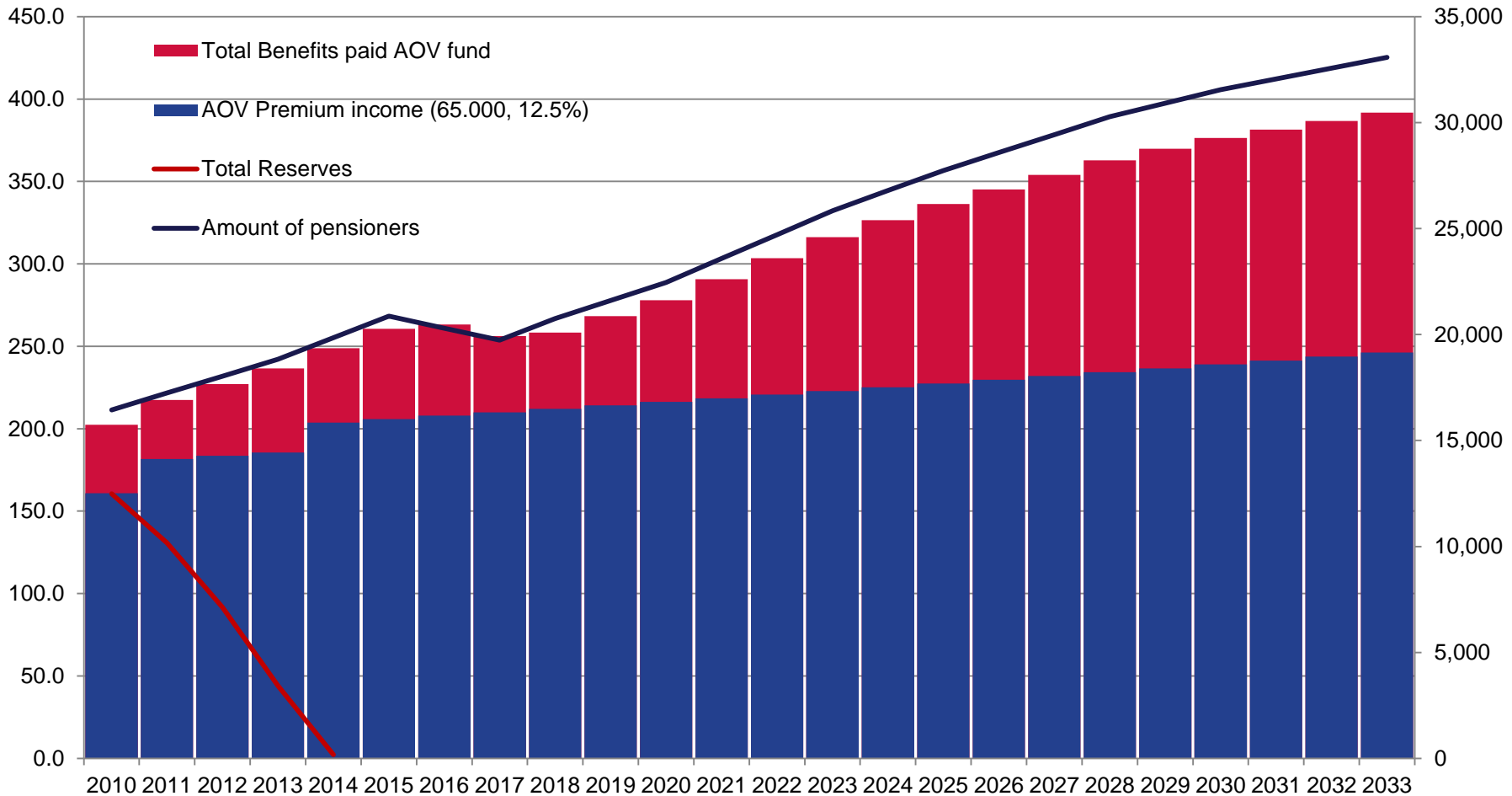


Demographic Developments Aruba





AOV Benefits and shortfalls





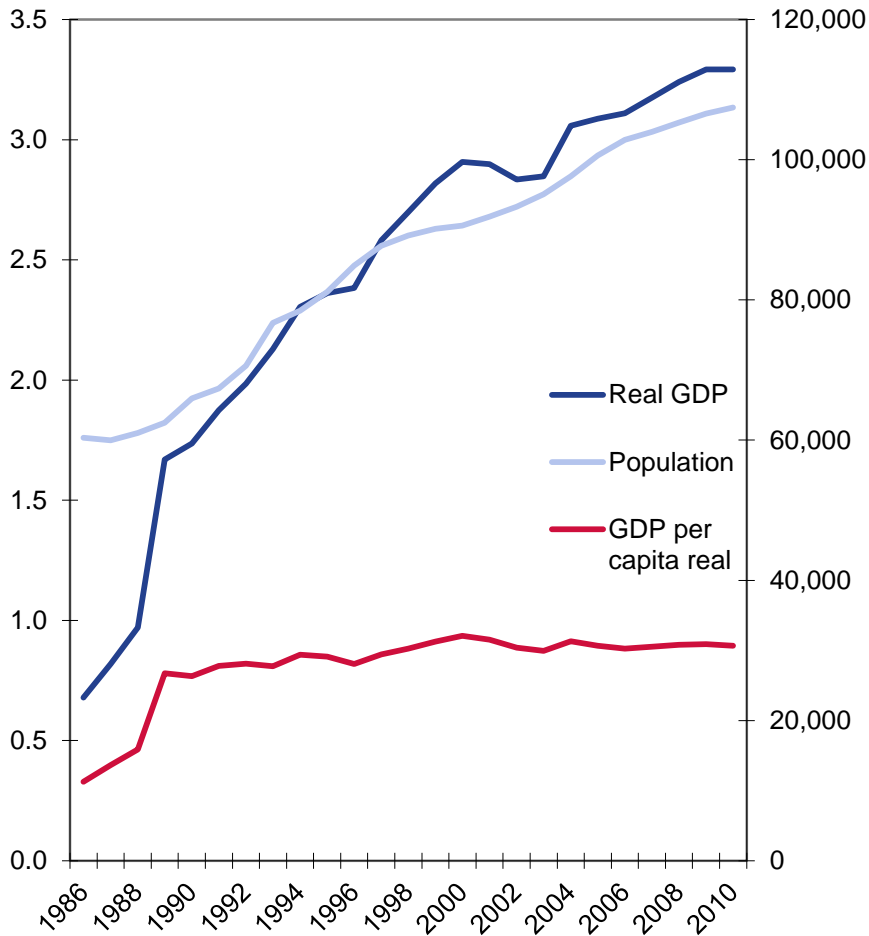
Some challenges

1. Aruba is ageing faster than most of the countries;
2. Even an adjusted pension age together with raised premiums and individualization will put the social fund under stress;
3. The number of the “oldest old” increased with almost 600% (total population only 100%): Severe consequences for health care costs.
4. Consequences for the community: changing spending pattern; decreasing tax revenue; shortage on the labor market; increasing health care costs; infrastructural changes (housing, roads, public area’s parking space,...).
5. Discussions need to go beyond whether or not pensions plans are “funded” or on a “pay-as-you-go” basis, whether they are defined benefit or defined contribution plans, whether “wage indexed” or “price indexed”.
6. The real issue: falling productivity and standards of living!

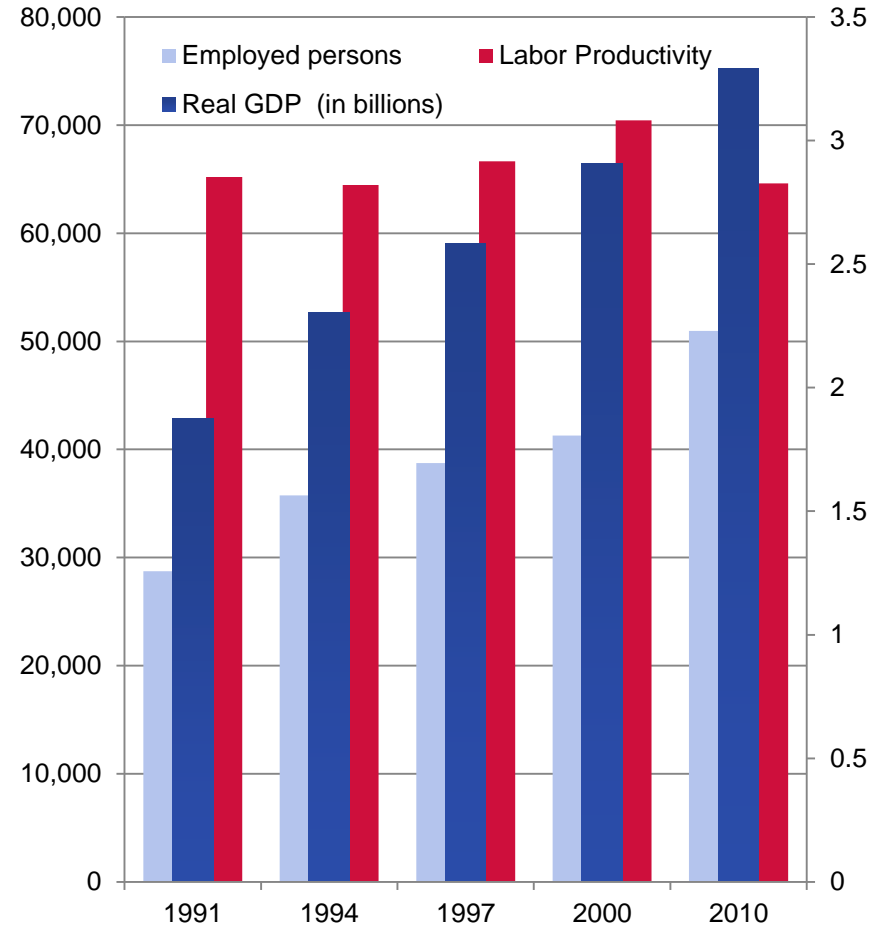


The *real* challenge

Real GDP and Population



Labor Productivity Drop





The real challenge

We have to change the focus of concern about ageing cost (pension system) to sustaining economic growth and improving living standards.

In this context population **ageing** becomes a **labor supply** issue.

In the 1960's: conditions favored pay-go pensions

- Interest rates were low,
- Productivity improvement rates were high (rapid wage growth).
- High fertility rates

In the 1980's conditions reversed:

- Low fertility rates drive up age dependency ratios
- Worker productivity slowed
- The combination of demographic and economic changes shifted the advantage toward funded pensions.



Labor supply and economic output

Labor productivity = total output divided by hours of labor.

Labor productivity can be attributed to:

- expansions in the capital stock available to labor,
- improved quality of labor;
- innovation and technology

The combination of labor productivity improvements and labor force growth has resulted in steady economic growth and rising standards of living in most countries.

GDP per capita increased during last decades in many countries. Improving the status of generations across time implies economic expansion.

We may aspire increasing output per capita, but this may become increasingly difficult to achieve given the demographic developments ahead.

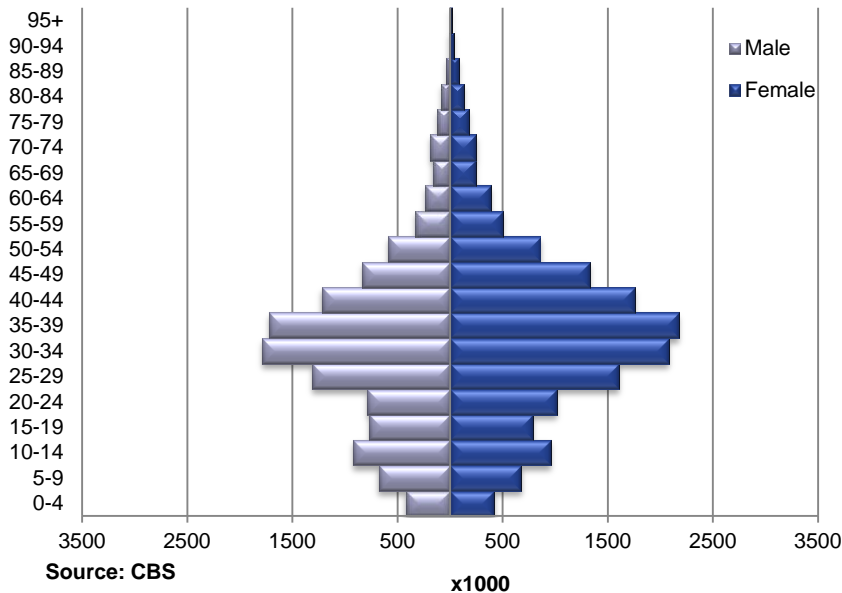


Labor supply and economic output

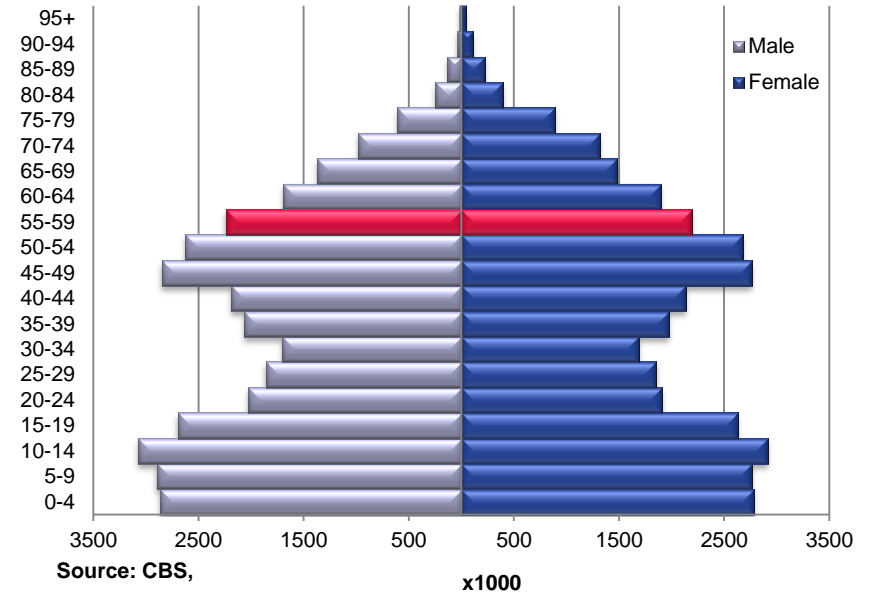
Difficult to predict economic growth. Why?

The ageing population may create workforce contractions in several countries during this decade or the next. In Aruba also. Future growth depends on (foreign) labor input, or raising labor productivity.

Foreign born population, 2000



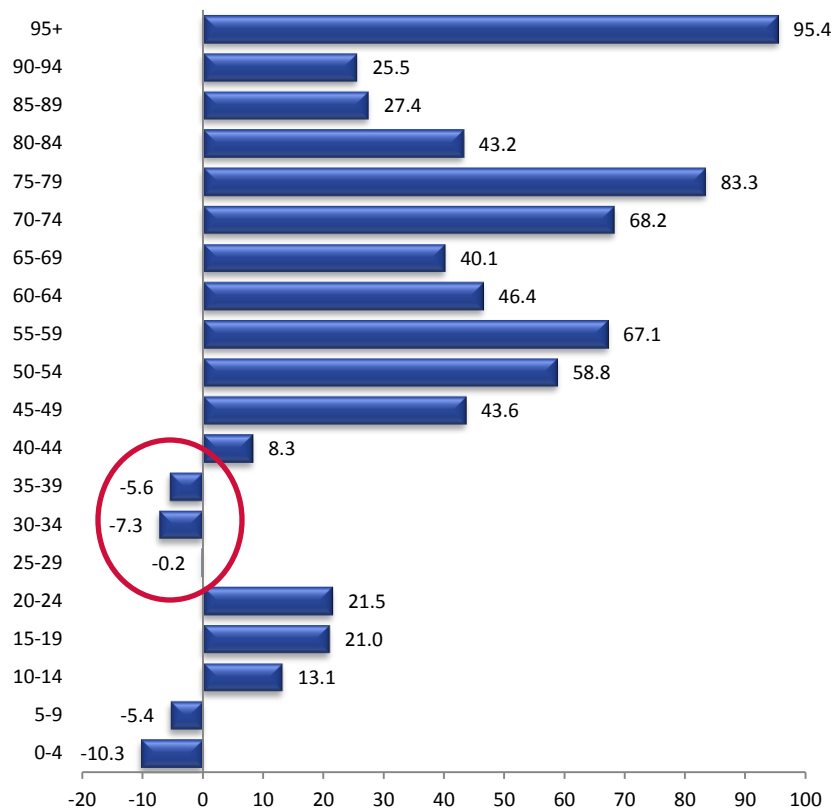
Population born in Aruba, 2008





Workforce contractions

Percentage change in the population structure, year 2000 = 100



Labor input:

Even including net-migration figures, one may observe immediately the shrinking numbers of young entrants, and the booming group of elderly.

New entrants are normally overrepresented at the lower-skill levels, outflow of labor at the higher-skill level, such as professionals, managers, legislators.

Labor productivity:

	1991	1994	1997	2000	2010
Real GDP (in billions)	1.874	2.304	2.582	2.908	3.293
Employed persons	28,740	35,743	38,736	41,286	50,967
Labor Productivity	65,204	64,461	66,657	70,435	64,610



The real challenge

Population ageing → slower or negative growth of labor supplies



slows economic growth



declines in rates of improvements in living standards will follow!

Who will bear the brunt of the slowdown? Depends on the character of the retirement system.

- Whether the
- 1) elderly will suffer (when policymakers will drive down the income levels of the elderly); or
 - 2) the workers will suffer (when they have to pay for the higher cost for the retirees (volume + health care costs))

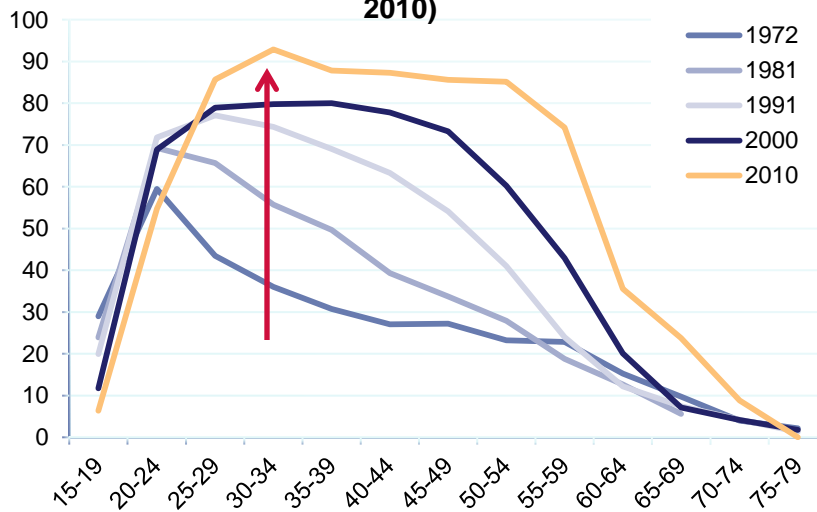
The consequence: declines in standards of living or difficult to spur workers onto higher levels of productivity if there is no real return in it for them.

Aligning Labor Demand and Supply

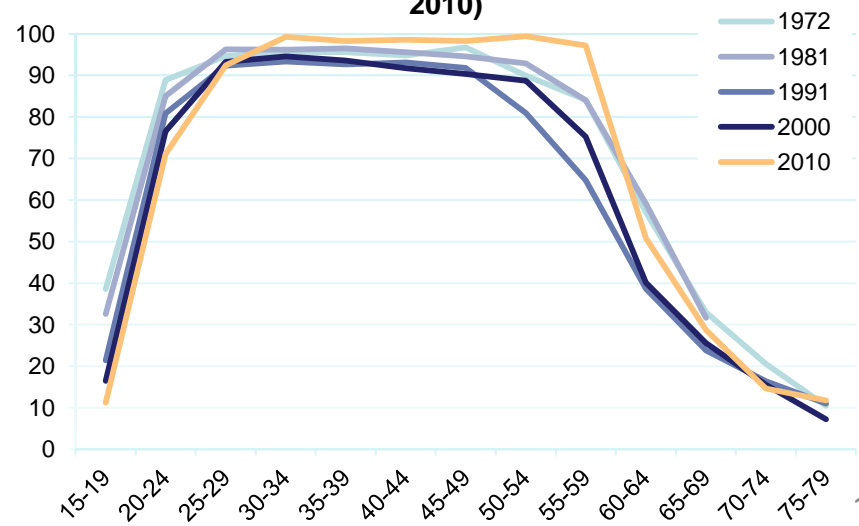
The solution: grow the labor force, despite the demographics.

1. Raise the retirement eligibility age.
2. Reduce older individuals incentives to retire early
3. Entice more workers into the labor force:
 - Focus on groups with low participation rates (women, younger retirees, young adults;
 - Raise net-migration

Participation rates females by age-group (1972-2010)

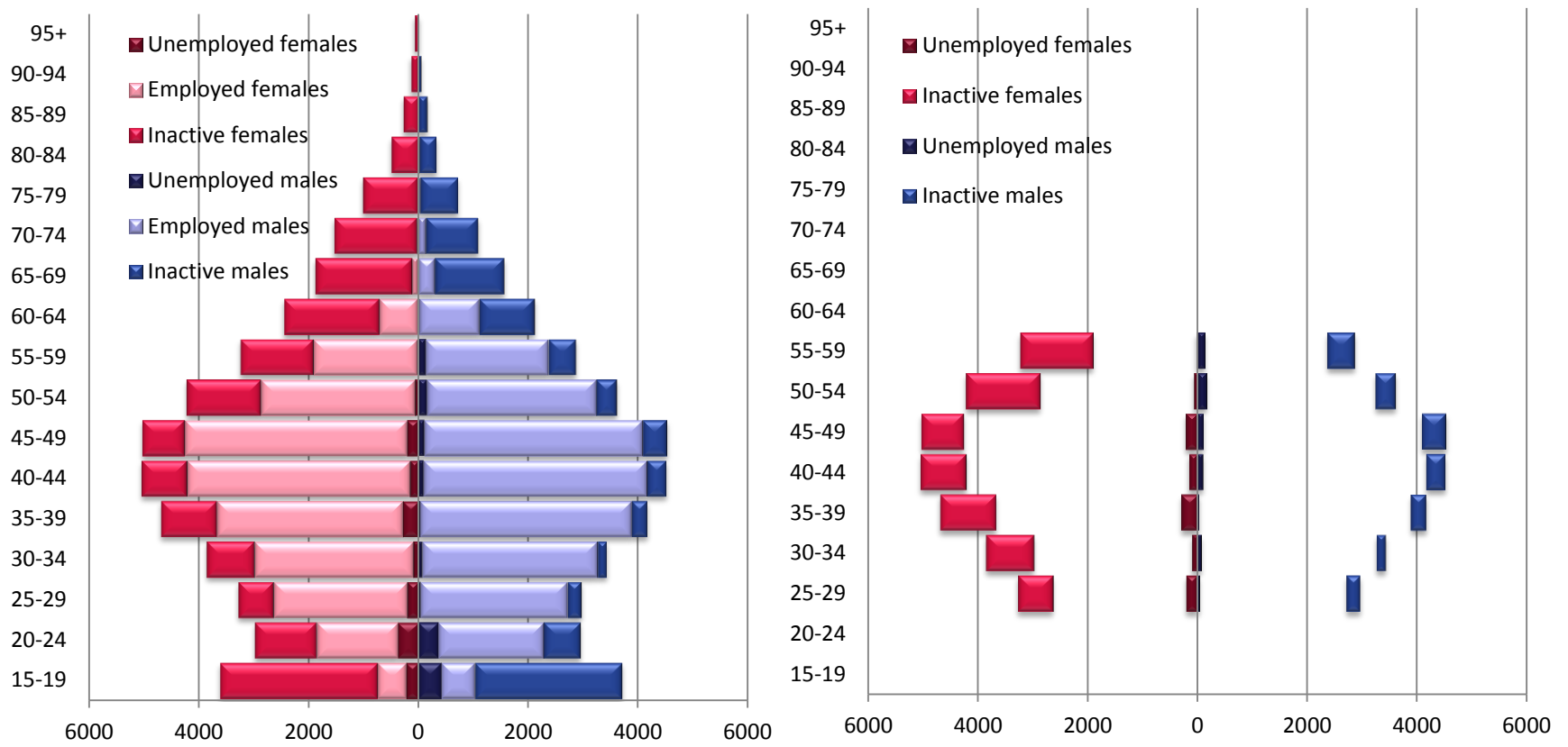


Participation rates males by age-group (1972-2010)





Potential Labor Supply





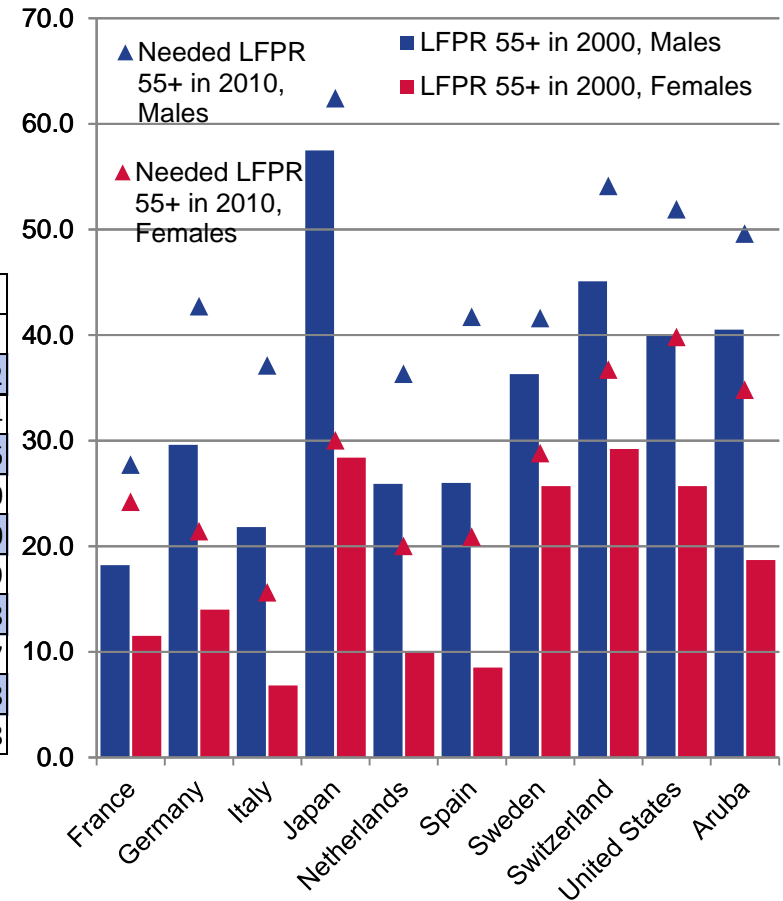
Needed Labor Force Participation Rates, 55+

Increases in old age labor force participation rates necessary to offset projected labor shortfalls over the coming decade

	LFPR 55+ in 2000		Needed LFPR 55+ in 2010	
	Males	Females	Males	Females
France	18.2	11.5	27.7	24.2
Germany	29.6	14.0	42.7	21.4
Italy	21.8	6.8	37.1	15.6
Japan	57.5	28.4	62.4	30.0
Netherlands	25.9	10.0	36.3	20.0
Spain	26.0	8.5	41.7	20.9
Sweden	36.3	25.7	41.6	28.8
Switzerland	45.1	29.2	54.1	36.7
United States	40.0	25.7	51.9	39.8
Aruba	40.5	18.7	49.6	34.8

Source: World Economic Forum; Census 2000 & 2010

Note: Figures for Aruba 2010: observed LFPR preliminary data





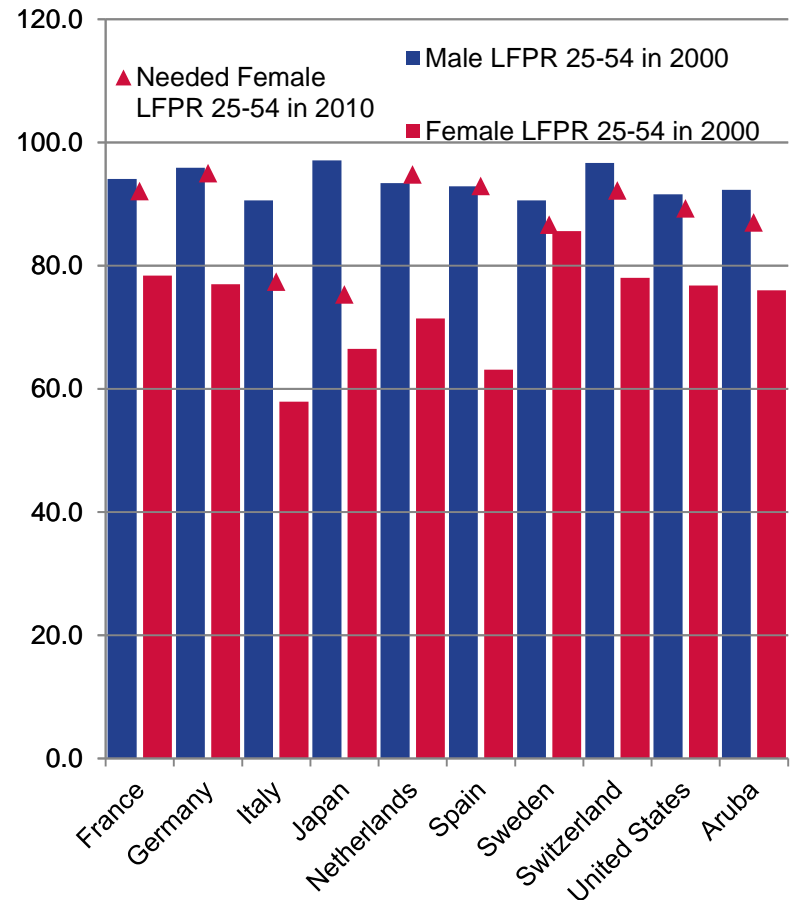
Needed Labor Force Participation Rates, 25-54 yrs

Increases in prime age labor force participation rates necessary to offset projected labor shortfalls over the coming decade

	Male LFPR 25-54 in 2000	Female LFPR 25-54 in 2000	Needed Female LFPR 25-54 in 2010
France	94.1	78.4	92.1
Germany	95.9	77.0	95.0
Italy	90.6	57.9	77.4
Japan	97.1	66.5	75.3
Netherlands	93.4	71.4	94.8
Spain	92.9	63.1	92.9
Sweden	90.6	85.6	86.6
Switzerland	96.7	78.0	92.2
United States	91.6	76.8	89.3
Aruba	92.3	76.0	87.0

Source: World Economic Forum; Census 2000 & 2010

Note: Figure for Aruba 2010: observed LFPR preliminary data





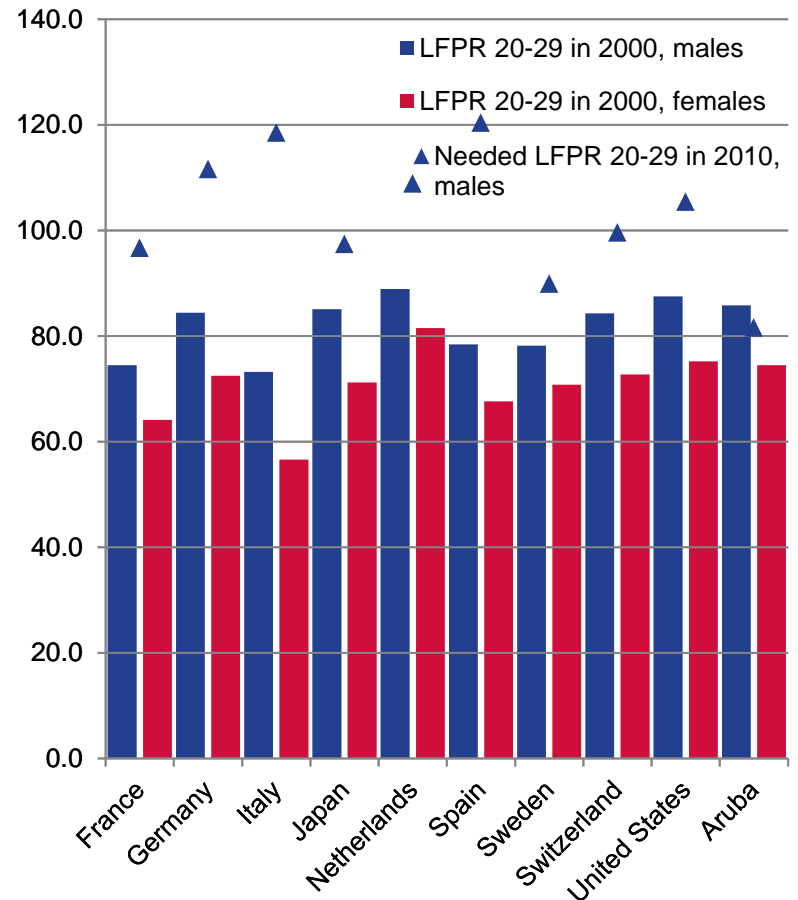
Needed Labor Force Participation Rates, 20-29 yrs

Increases in younger workers' labor force participation rates necessary to offset projected labor shortfalls over the coming decade

	LFPR 20-29 in 2000		Needed LFPR 20-29 in 2010	
	Males	Females	Males	Females
France	74.5	64.1	96.7	82.3
Germany	84.4	72.5	111.6	95.5
Italy	73.2	56.6	118.5	91.1
Japan	85.1	71.2	97.4	81.6
Netherlands	88.9	81.5	108.9	99.6
Spain	78.4	67.6	120.4	105.1
Sweden	78.2	70.8	89.9	80.2
Switzerland	84.3	72.7	99.6	85.3
United States	87.5	75.2	105.4	90.6
Aruba	85.8	74.5	81.6	70.8

Source: World Economic Forum; Census 2000 & 2010

Note: Figures for Aruba 2010: observed LFPR preliminary data





Groups of interest

- Participation rates for prime-aged males and females are already high
- To offset labor shortfalls labor force participation rates for the group 55+ need to raise significantly
- Young workers alone cannot offset the labor shortfalls alone
- Raising labor force participation rates for all three groups may hold considerable promise.
- Another approach is to increase immigration rates. However developed countries need to increase immigration rates multiple times (2.5 till 11 times) to make up falling birth-rates.



Conclusion: Living Happily Ever After

- Without profound adjustments, the AOV is not sustainable;
- Current income levels for elderly persons are not worry some (1680,= p/m for persons born in Aruba; 3121,= p/m born in the Netherlands; 1115,= born in Venezuela; but purchasing power is not guaranteed because of inflation;
- AOV is the main source of income for the elderly, without AOV elderly are pushed into poverty;
- The problems of financing the AOV and AZV is just the top of the iceberg: labor shortage and dropping labor productivity are the real (hidden) challenges to tackle;
- To solve labor shortage, we (employers) need to focus on the young, elderly, women and migrants, by taking away barriers and create incentives;
- To solve labor productivity we may use technology, flexibilization of employment, define career patterns, change management styles, capital investments, etc.

All measures together will push up rates of economic activity, providing a boost to standards of living.....

..... and policymakers will face the challenge of diverting the increased productivity to a larger aged population.