
6. DUCHODOVÁ POLITIKA

Obsah

6.1. Bismarck a Beveridge

6.2. Rovnice

6.3. Case study: Německo

6.1. Bismarck a Beveridge

On 20 March 1884, Otto von Bismarck declared:

[...] the actual complaint of the worker is the insecurity of his existence; he is unsure if he will always have work, he is unsure if he will always be healthy and he can predict that he will reach old age and be unable to work.

If he falls into poverty, and be that only through prolonged illness, he will find himself totally helpless being on his own, and society currently does not accept any responsibility towards him beyond the usual provisions for the poor, even if he has been working all the time ever so diligently and faithfully. The ordinary provisions for the poor, however, leave a lot to be desired [...]

Health Insurance Bill of 1883

Accident Insurance Bill of 1884

Old Age and Disability Insurance Bill of 1889

Bismarckovské důchodové systémy

- Penze jsou zamýšleny jako náhrada pracovních výdělků ve stáří
- Proto zde existuje silná vazba mezi individuálně odvedenými příspěvky z mezd a individuálními penzemi
- Nároky akumulovány pomocí záznamů odpracovaných let a výdělků – bodový systém (Německo, Francie) nebo pomocí NDC – příspěvky jsou virtuálně úročeny (Švédsko, Itálie)
- Výrazné odchylky od mezigenerační rovnosti → dřívější a málo početné generace získávají vyšší výnos
- V některých zemích (Itálie, Francie) odlišný režim (dřívější odchod, vyšší penze) pro některé zaměstnanecké skupiny (státní zaměstnanci, horníci, železničáři)
- Nízký podíl soukromých penzijních výdajů – crowding out efekt?

Beveridgovské důchodové systémy

- Nízká vazba mezi individuálními příspěvky do systému a individuálními penzemi
- Skladba penzí:
 - základní (Nizozemí, Nový Zéland)
 - vícepilířové (Kanada, Irsko, Japonsko, Švýcarsko, V. Británie)
 - unifikované, nelineární (USA)
- Silné přerozdělování v rámci jedné generace

Shrnutí: Bismarck x Beveridge

Box 4. A classification of countries by type of public pension programme in OECD countries

'Bismarck'-style public pension programmes, characterized by:
high 'actuarial fairness';
significant departures from inter-generational equity;
limited private provision of retirement benefits.

Austria
Belgium
Finland
France
Germany
Greece

Italy
Luxembourg
Norway
Portugal
Spain
Sweden

'Beveridge'-style public pension programmes, characterized by:
significant departures from 'actuarial fairness'; variable (across countries) extent of inter-generational equity;
significant provision of private retirement benefits.

Australia
Canada
Denmark
Ireland
Japan
The Netherlands
New Zealand
Switzerland
United Kingdom
United States

Mezigenerační (ne)rovnost

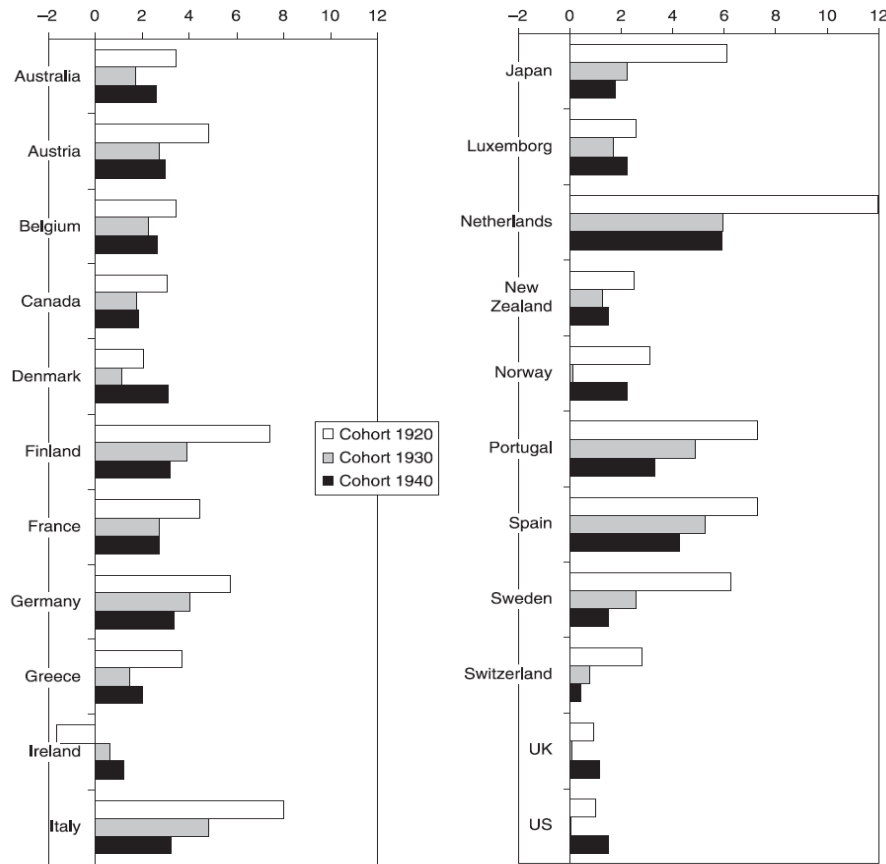


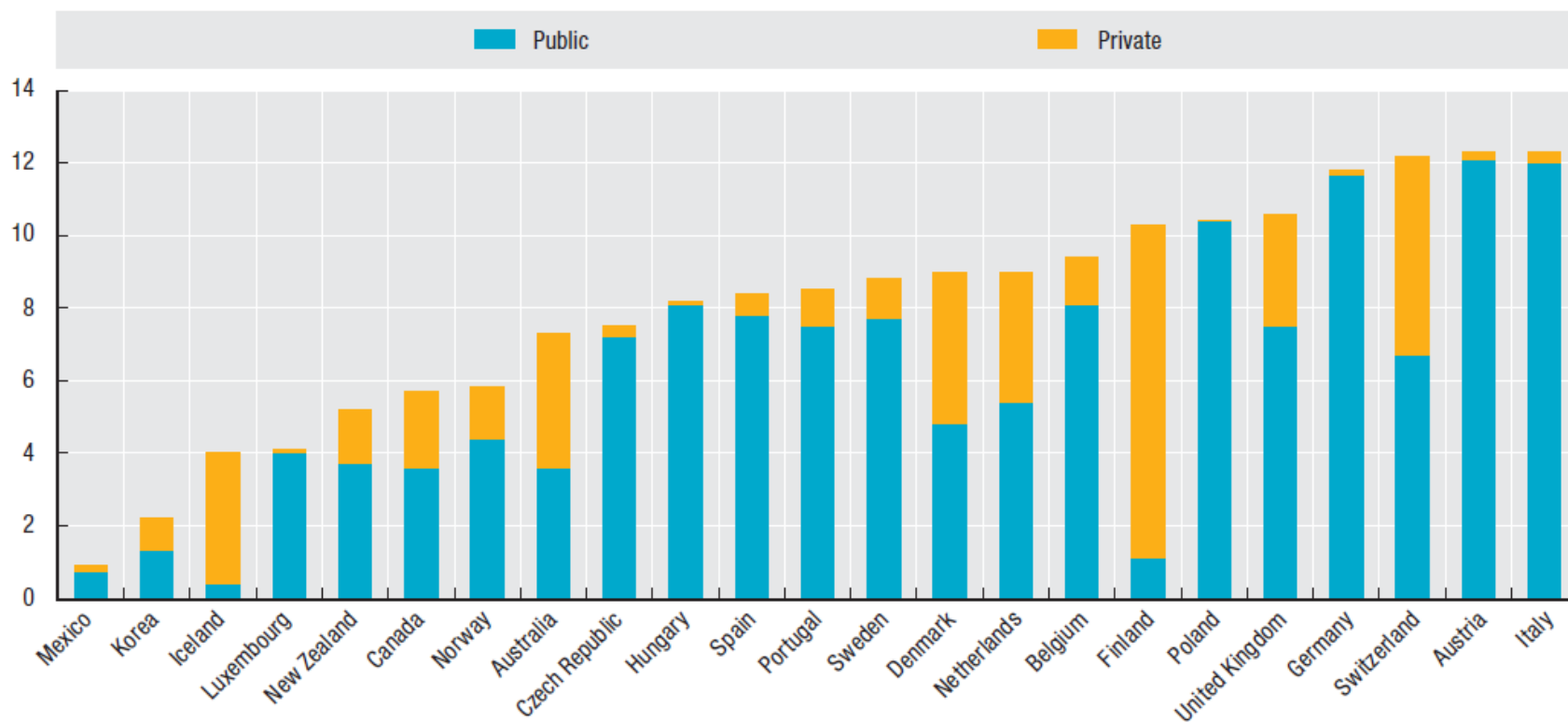
Figure 1. Internal rates of return (IRRs) to pension contributions, by country and cohort (generation)

The internal rate of return is then computed as that rate of return at which the present value of the (negative) stream of contributions paid is equal to the present value of the (positive) stream of pension benefits.

Veřejné a soukromé penzijní výdaje

Public and private pension expenditures

As a percentage of GDP, 2006



Zdroj: OECD Factbook (2009)

Geografická klasifikace PS

- 1) Skandinávské (DK, FIN, NOR, SWE)
 - 2) Kontinentální (AT, BE, FRA, GER)
 - 3) Jižní (ITA, GRE, SPA, PT)
 - 4) Anglo-Sax (AUS, CAN, IRL, NZ, UK, USA)
 - 5) Ostatní (JAP, LUX, NED, SWITZ)
 - 6) Vychodoevropské (CZ, SK, PL, HU)
-

6.2. Rovnice

Účetní rovnováha PAYG důchodového systému

PŘÍJMY = VÝDAJE

$$t \bullet Nw \bullet w = Nb \bullet B$$

*t = daňová sazba placená zaměstnavatelem i zaměstnancem
(payroll tax rate paid by employers and employees)*

*Nw = počet pojištěných osob (příspěvovatelů) v daném roce
(number of covered workers employed in a year)*

*w = průměrná mzda pojištěnce během roku
(average wages of covered workers during the year)*

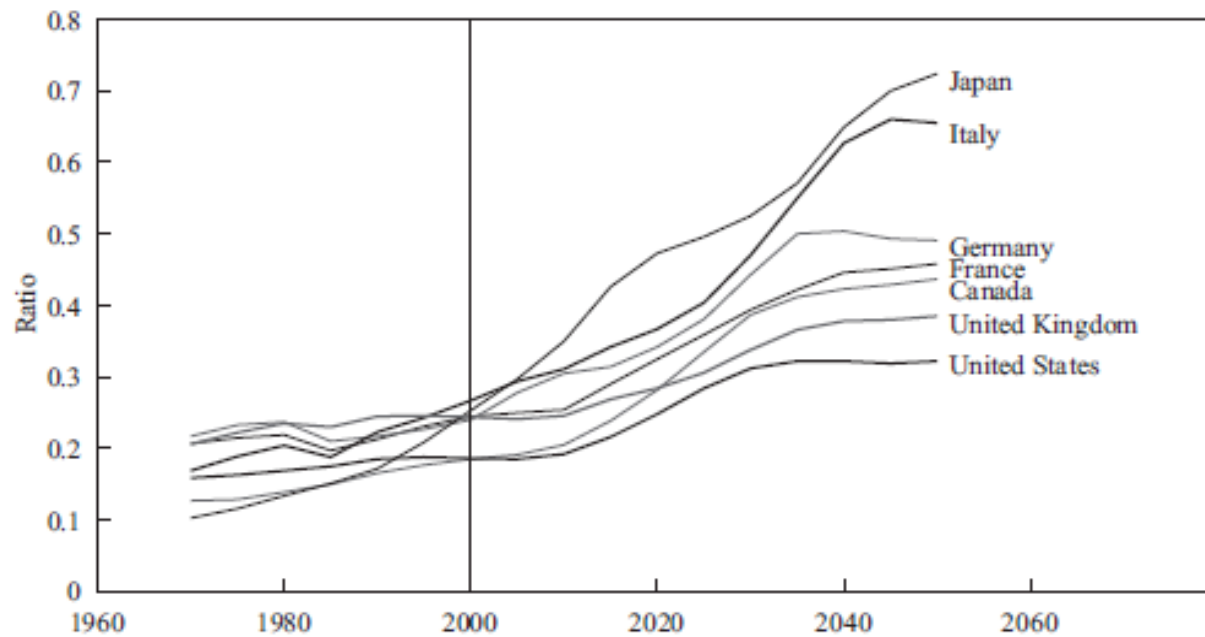
Nb = počet důchodců pobírajících dávky (number of retirees receiving benefits)

B = průměrný důchod (average benefits paid to retirees)

$$t = (Nb/Nw) \bullet (B/w)$$

Demografický vývoj

Figure 4 Old-age dependency ratio, estimates 1970–2000 and projections 2000–2050

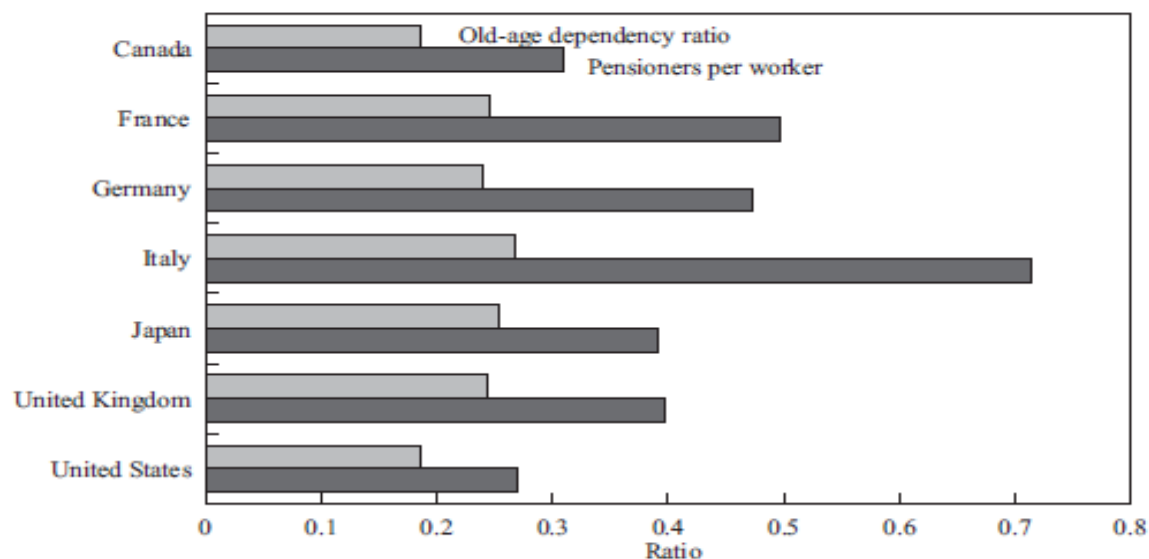


Note: The old-age dependency ratio equals the ratio of the population aged 65 years and older to the population aged 15–64.

Source: UN (2003).

Demografie (OADR) a důchodci/zaměstnaní (N_b/N_w)

Figure 1 Old-age dependency ratio and pensioner per worker ratio in 2000



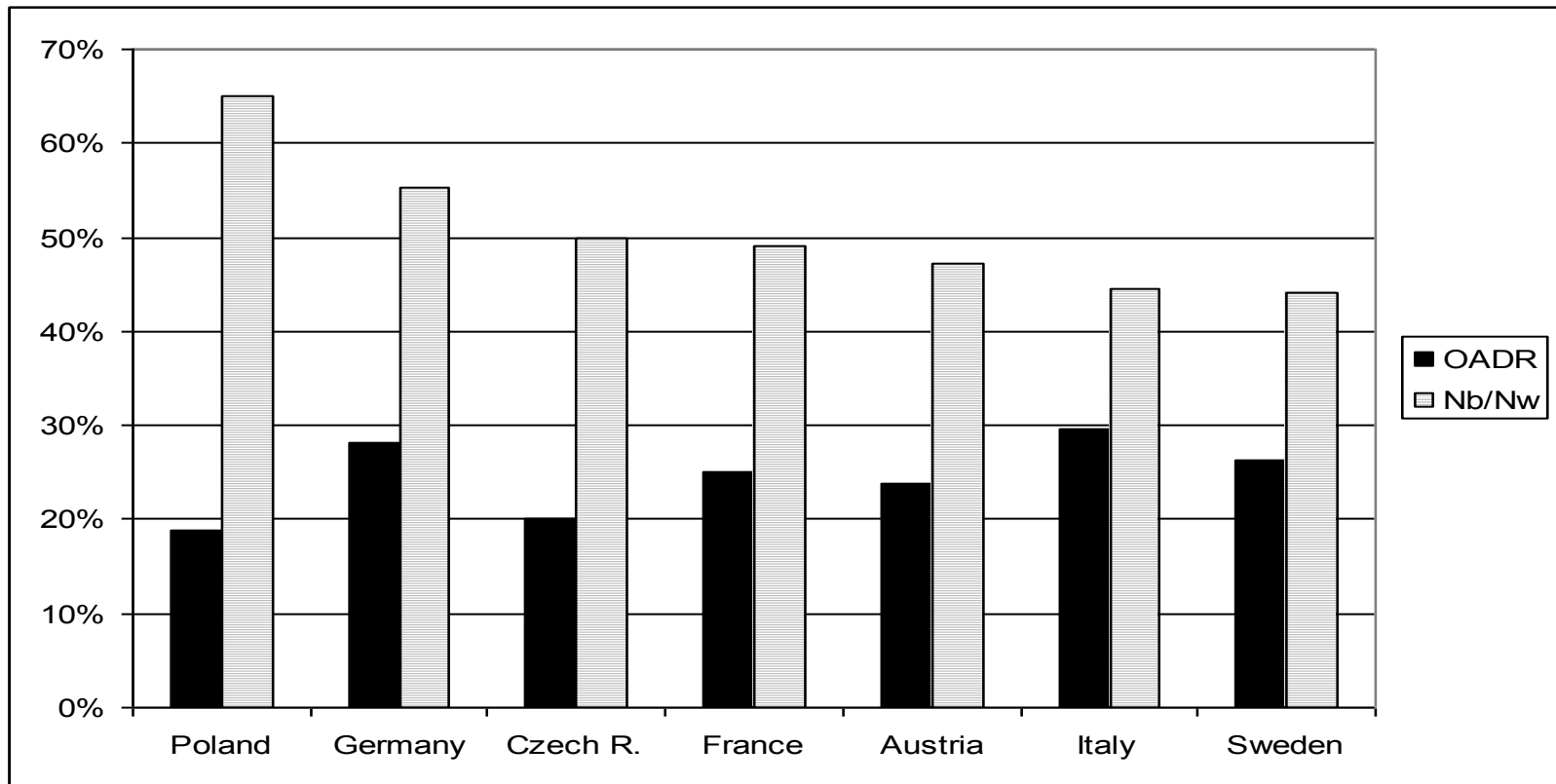
Note: The old-age dependency ratio equals the ratio of the population aged 65 years and older to the population aged 15–64. The number of pensioners is defined as the population aged 65 and older plus anyone under age 65 who is retired and over the minimum age of eligibility for a public pension.

Důchodci/Zaměstnaní (N_b/N_w)

Tabulka: N_b ; N_w v populaci starší 15 let (%). Rok 2005

	PL	DE	CZ	FR	AT	EU 25	IT	SW	UK
N_b	28	26	27	25	26	23	20	26	22
N_w	43	47	54	51	55	50	45	59	58
N_b/N_w	65	55	50	49	47	46	44	44	38

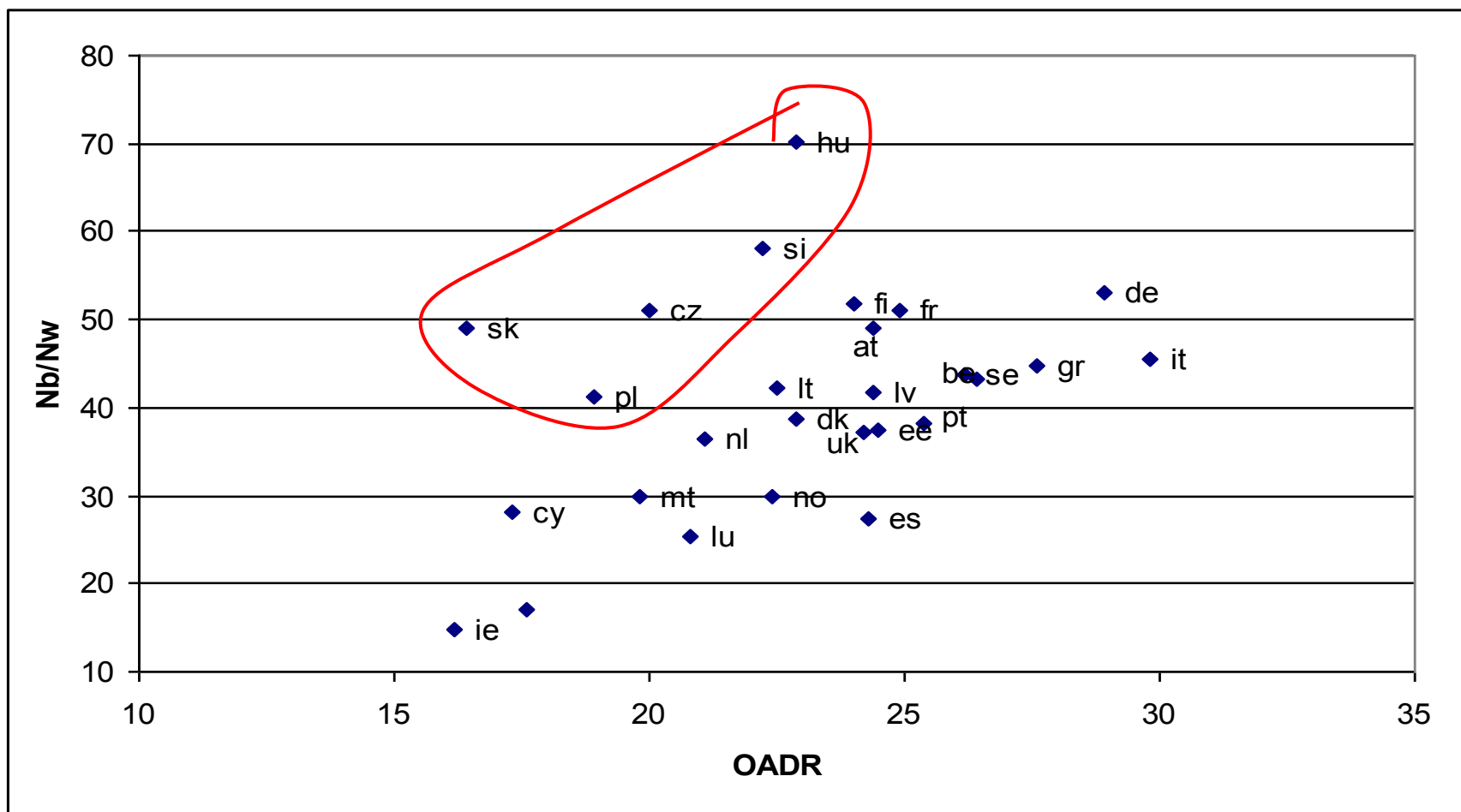
OADR a N_b/N_w Rok 2005.



Zdroj dat: Eurostat

OADR x Nb/Nw

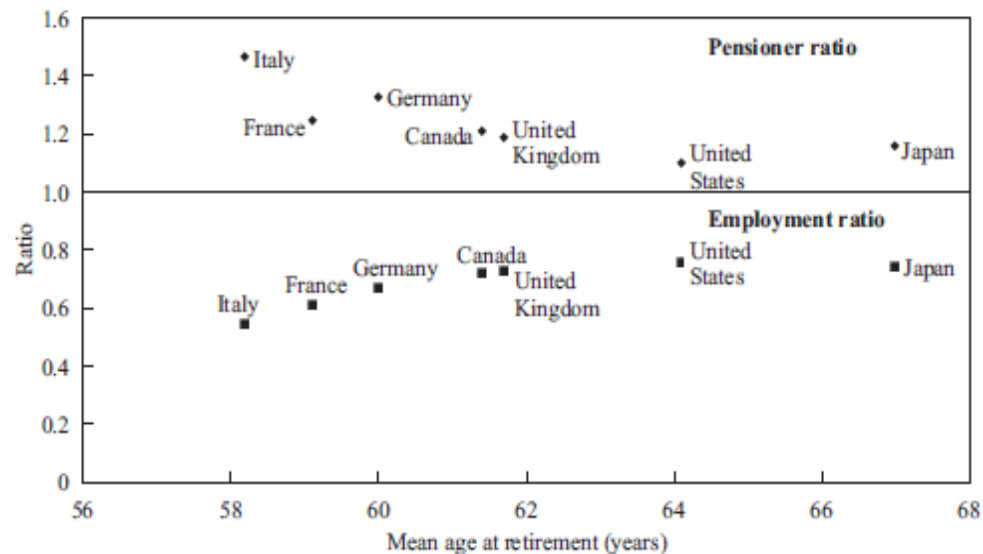
Rok 2006



Zdroj dat: Eurostat

Důchodový věk a míry zaměstnanosti

Figure 2 Relationship between pensioner and employment ratios and mean age at retirement in 2000



Note: The pensioner ratio equals the ratio of pensioners to the population aged 65 years and older. The employment ratio equals the number of employed persons divided by the population aged 15–64. The mean age at retirement is estimated with the method proposed by Latulippe (1996).

Zaměstnaní (Nw) / Důchodci (Nb)

Table A2. Economic support ratios (%), 1955–95

Country	1955	1965	1975	1985	1995
Australia	2.63	2.68	2.82	2.80	2.78
Austria	2.61	2.12	2.12	2.28	2.28
Belgium	2.12	1.93	1.99	2.07	1.96
Canada	3.08	3.07	3.20	3.20	3.05
Denmark	2.82	2.37	2.46	2.76	2.79
Finland	4.12	3.26	3.13	2.94	2.66
France	2.46	2.29	2.46	2.53	2.34
Germany	2.95	2.37	2.45	2.62	2.46
Greece	3.22	2.44	2.09	2.05	2.08
Ireland	2.21	1.94	2.21	2.37	2.61
Italy	2.90	2.43	2.35	2.18	2.00
Japan	4.42	4.05	3.68	2.94	2.25
Luxembourg	2.50	2.10	2.05	2.27	2.22
Netherlands	2.27	2.27	2.37	2.53	2.56
New Zealand	2.77	2.63	2.78	2.83	2.95
Norway	2.35	1.96	2.03	2.13	2.32
Portugal	2.63	2.20	2.61	2.60	2.34
Spain	3.16	2.55	2.61	2.46	2.22
Sweden	2.35	2.05	2.06	2.08	2.19
Switzerland	2.63	2.39	2.35	2.43	2.41
UK	2.27	2.09	1.98	2.01	2.10
US	2.68	2.53	2.53	2.63	2.75
<i>Average</i>	<i>2.78</i>	<i>2.44</i>	<i>2.47</i>	<i>2.49</i>	<i>2.42</i>

Zdroj: Disney (2004)

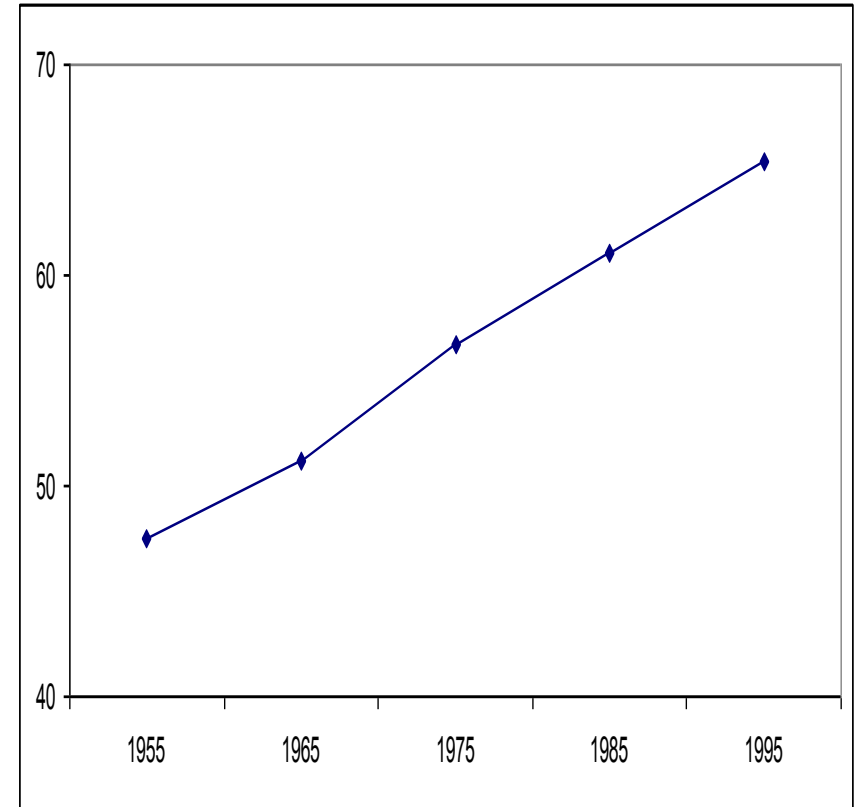
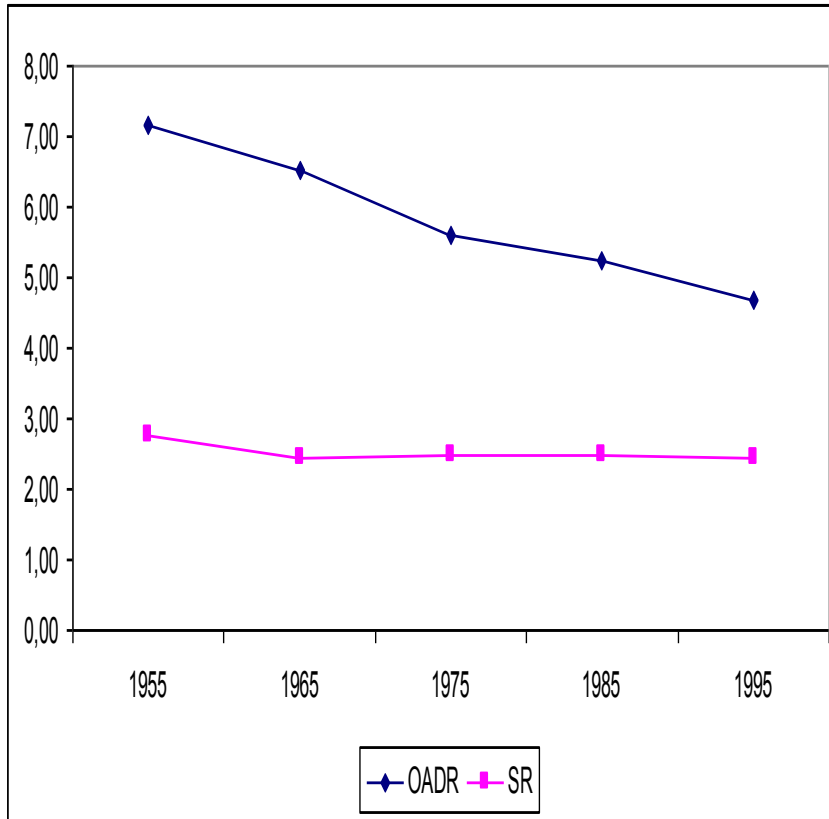
Náhradový poměr (B/W)

Table A1. Replacement rates (%), 1955–95

Country	1955	1965	1975	1985	1995
Australia	19.1	24.6	32.8	36.9	40.9
Austria	79.5	79.5	79.5	79.5	79.5
Belgium	72.6	71.8	70.5	69.0	67.5
Canada	31.3	36.8	45.1	48.4	51.6
Denmark	35.9	38.5	42.3	49.3	56.2
Finland	34.9	44.4	58.6	59.3	60.0
France	50.0	55.0	62.5	63.7	64.8
Germany	60.2	60.0	59.6	57.3	55.0
Greece	50.0	62.0	80.0	100.0	120.0
Ireland	38.6	34.7	28.9	34.3	39.7
Italy	60.0	60.8	62.0	71.0	80.0
Japan	24.6	36.4	54.1	53.1	52.1
Luxembourg	80.0	80.0	80.0	86.6	93.2
Netherlands	32.2	38.5	48.0	46.9	45.8
New Zealand	32.0	36.4	43.0	52.2	61.3
Norway	25.3	39.7	61.2	60.6	60.0
Portugal	85.0	81.8	77.0	79.8	82.6
Spain	50.0	50.0	50.0	75.0	100.0
Sweden	53.8	63.1	77.1	75.8	74.4
Switzerland	28.4	37.7	51.7	50.5	49.3
UK	33.4	33.6	33.8	41.8	49.8
US	39.1	43.1	49.1	52.6	56.0
<i>Average</i>	<i>47.5</i>	<i>51.2</i>	<i>56.7</i>	<i>61.1</i>	<i>65.4</i>

Source: Calculated from Blöndal and Scarpetta (1998, Table III.3).

Demografie (OADR), trh práce ($SR=Nw/Nb$) a náhradový poměr (B/W)



Zdroj: Disney (2004)

Efektivní daňová sazba (t)

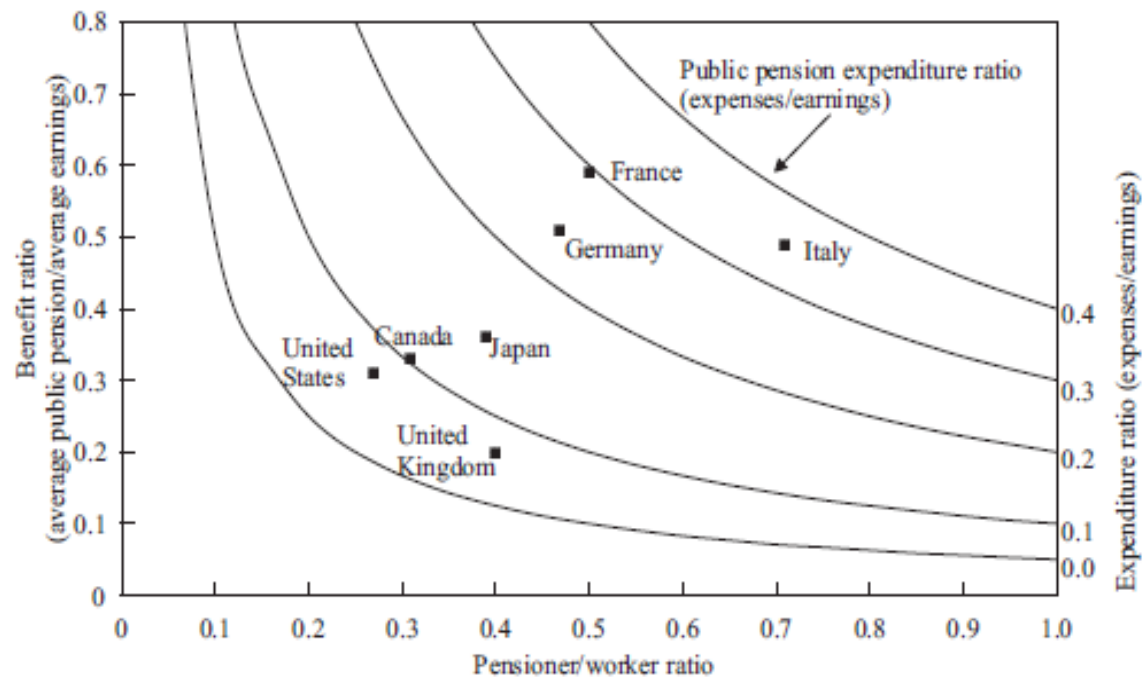
Table 1. Effective contribution rates to public pension programmes in OECD countries 1955–95 (%)

Country	1955	1965	1975	1985	1995
Australia	7.3	9.2	11.6	13.2	14.7
Austria	30.5	37.5	37.5	34.9	34.8
Belgium	34.2	37.1	35.4	33.3	34.4
Canada	10.2	12.0	14.1	15.1	16.9
Denmark	12.7	16.2	17.2	17.9	20.1
Finland	8.5	13.6	18.7	20.2	22.5
France	20.3	24.1	25.4	25.2	27.7
Germany	20.4	25.3	24.3	21.9	22.4
Greece	15.5	25.4	38.2	48.8	57.7
Ireland	17.4	17.9	13.1	14.4	15.2
Italy	20.7	25.0	26.4	32.5	40.0
Japan	5.6	9.0	14.7	18.1	23.2
Luxembourg	32.0	38.1	39.1	38.1	42.1
Netherlands	14.2	17.0	20.2	18.6	17.9
New Zealand	11.6	13.8	15.5	18.4	20.8
Norway	10.7	20.2	30.2	28.4	25.8
Portugal	32.4	37.2	29.5	30.7	35.4
Spain	15.8	19.6	19.1	30.5	45.0
Sweden	22.9	30.8	37.4	36.3	33.9
Switzerland	10.8	15.8	22.0	20.8	20.4
UK	14.7	16.0	17.1	20.8	23.7
US	14.6	17.0	19.4	20.0	20.4
Average	17.4	21.7	23.9	25.4	28.0

Zdroj: Disney (2004)

Efektivní daňová sazba (t)

Figure 3 Relationship between the public pension benefit ratio and the pensioner/worker ratio



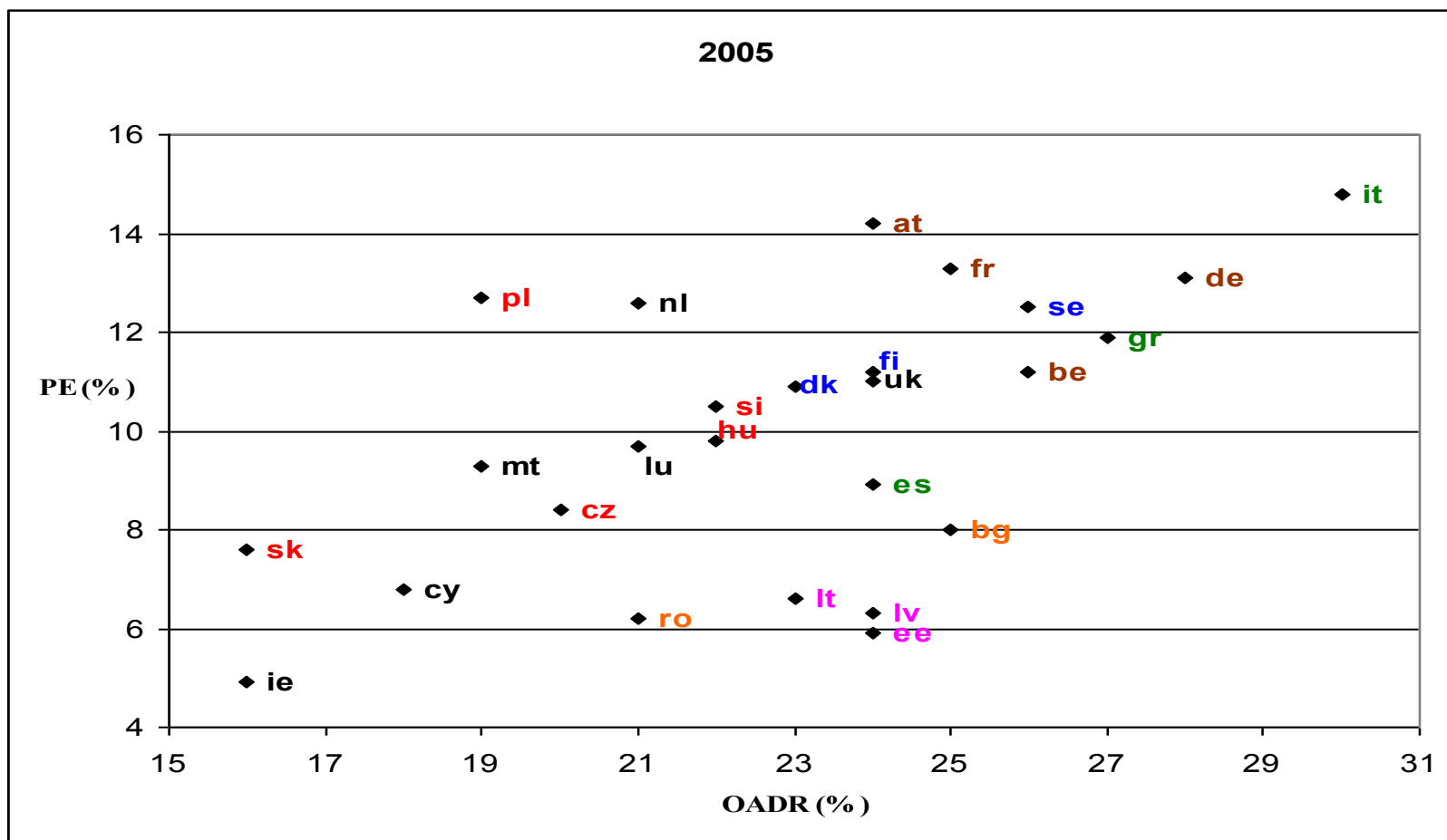
$$t (\%) = N_b/N_w \bullet B/w$$

PE (%) – pensions as percentage of GDP; wgs (%) = PE/t

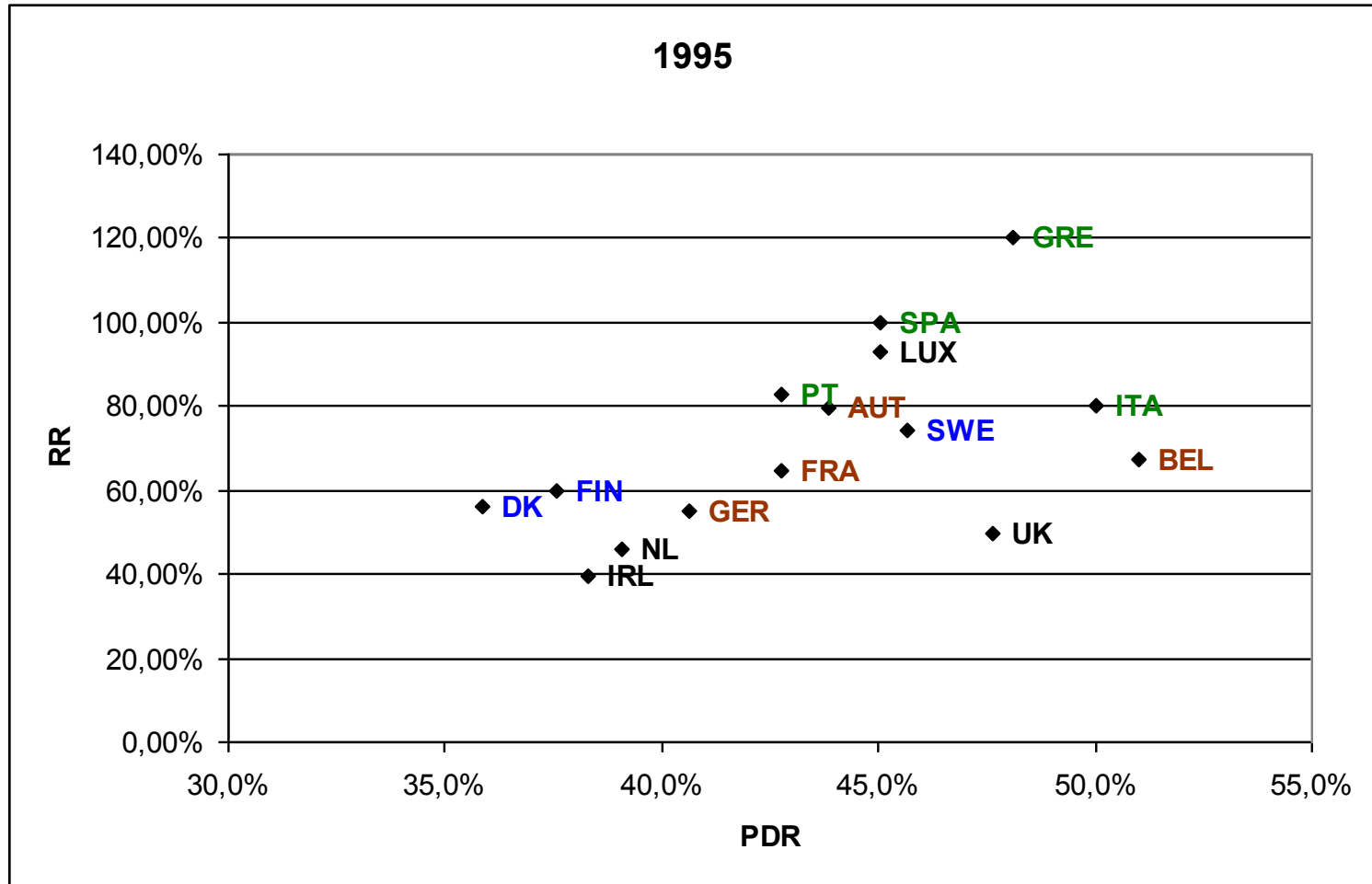
	N_b/N_w	B/w	t	wgs	PE
Italy	44	58	26	57	14,8
Austria	47	65	31	46	14,2
France	49	58	28	47	13,3
Germany	55	46	25	51	13,1
Poland	65	59	38	33	12,7
EU 25	46	51	23	52	12,2
Sweden	44	60	26	47	12,5
UK	38	44	17	66	11,0
Czech R.	50	52	26	32	8,4

OADR x PE (2006)

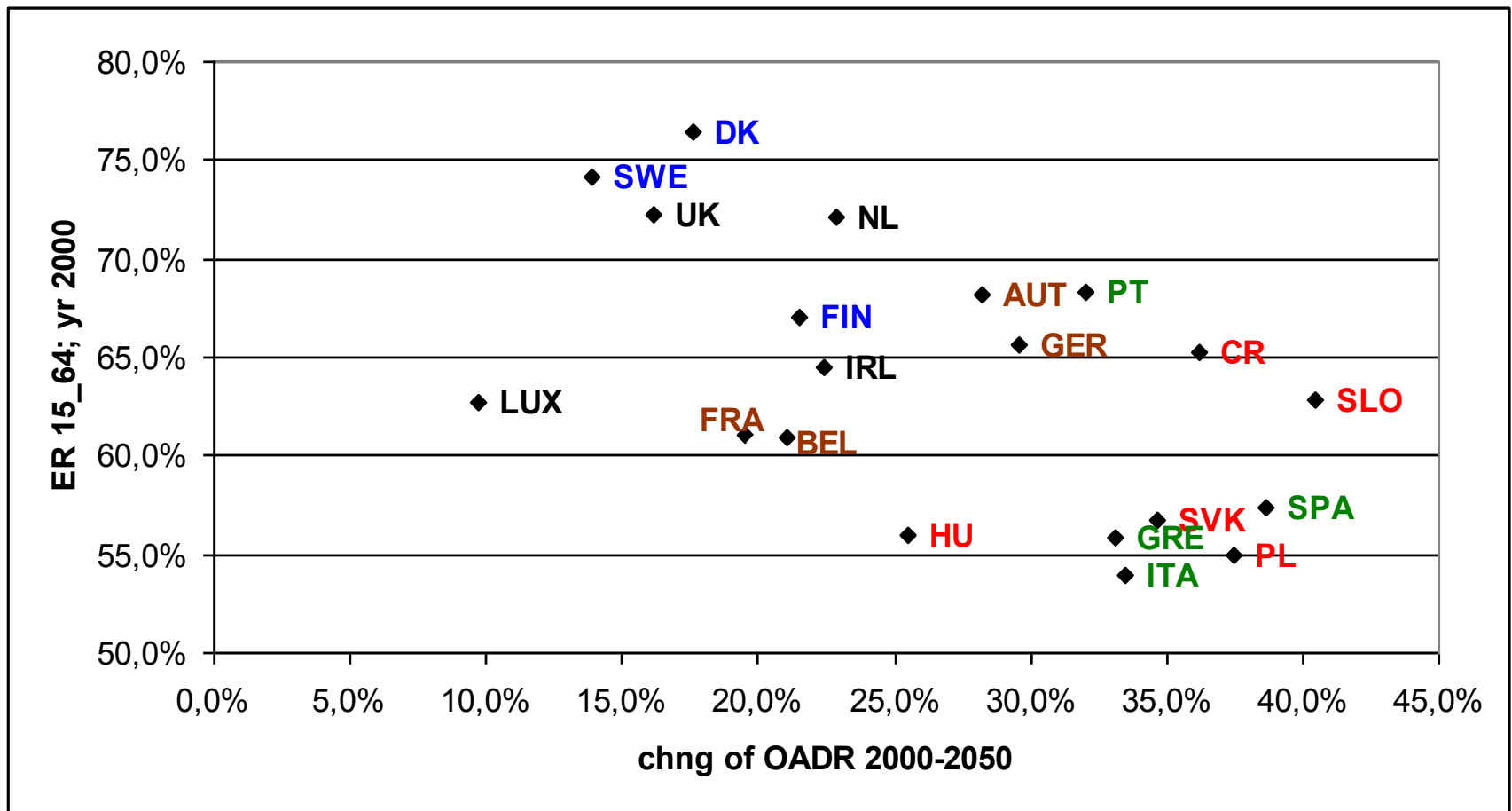
PE...podíl penzí na HDP (%)



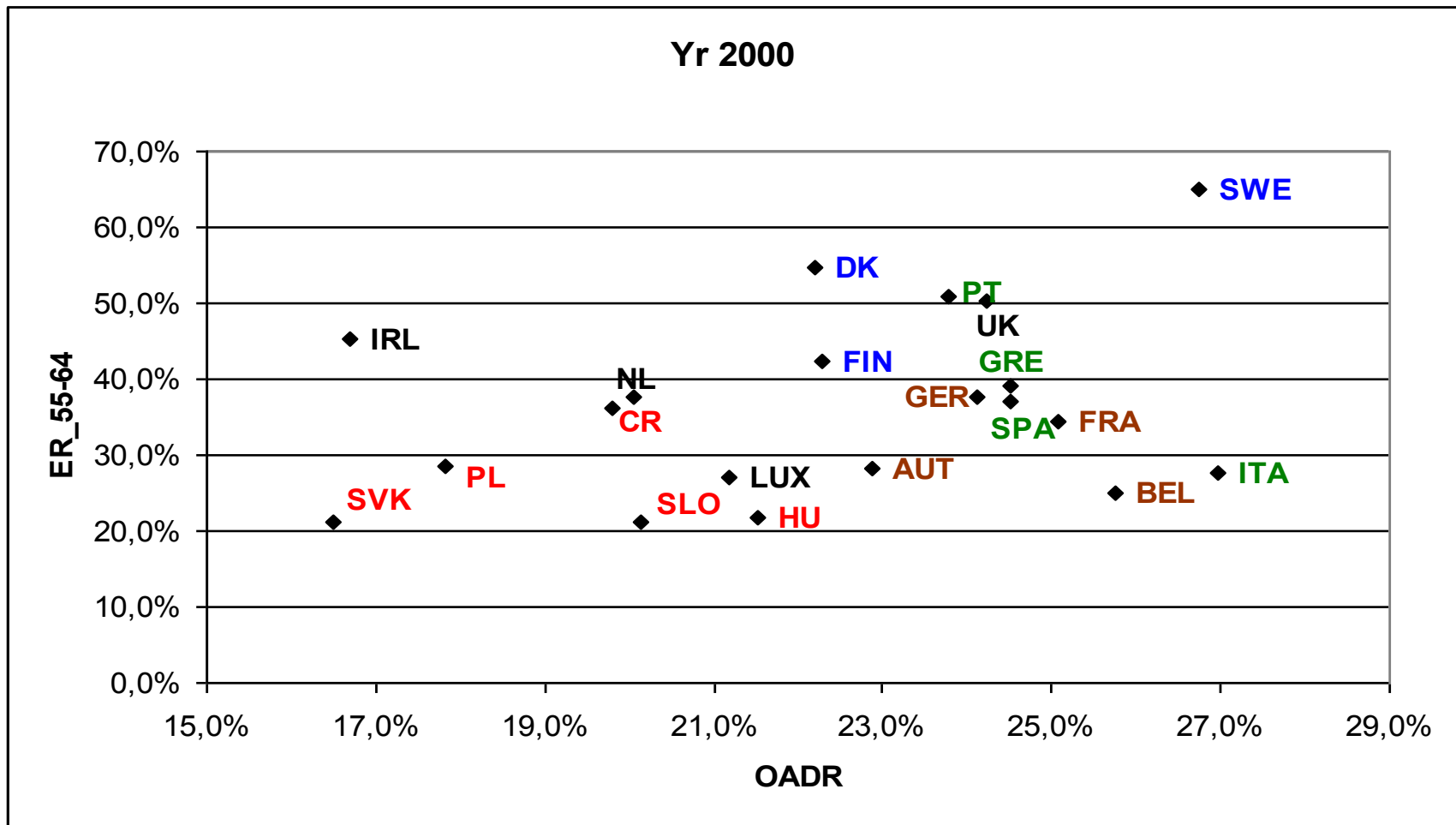
$Nb/N_w \times B/W$



Rezervy systému (1)

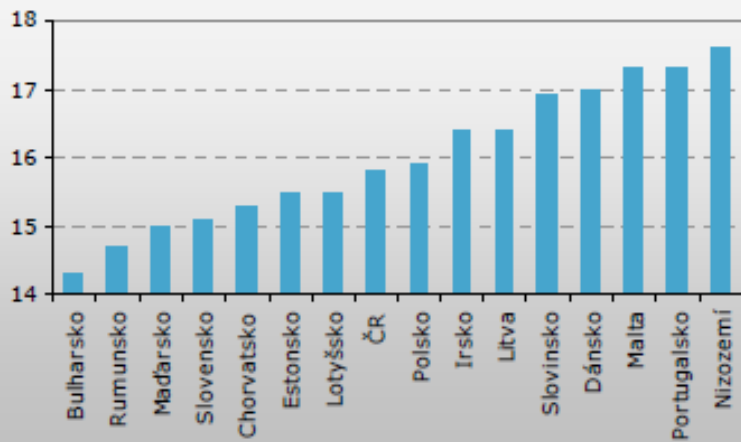


Rezervy systému (2)



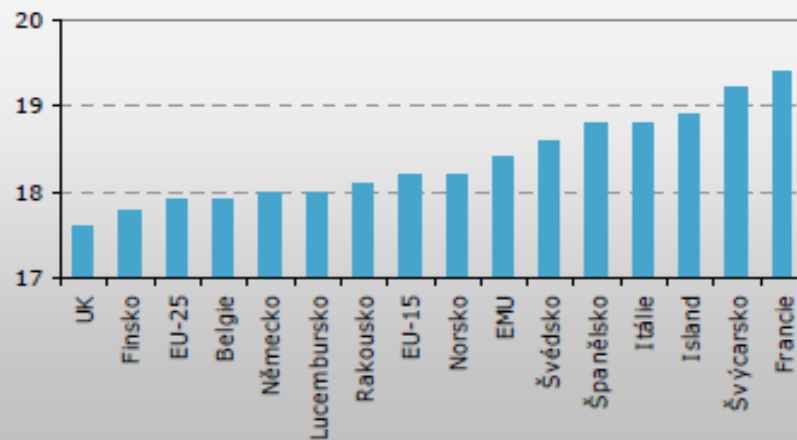
Demografie a hospodářská politika

OČEKÁVANÁ DOBA DOŽITÍ 65LETÝCH OSOB (2000)



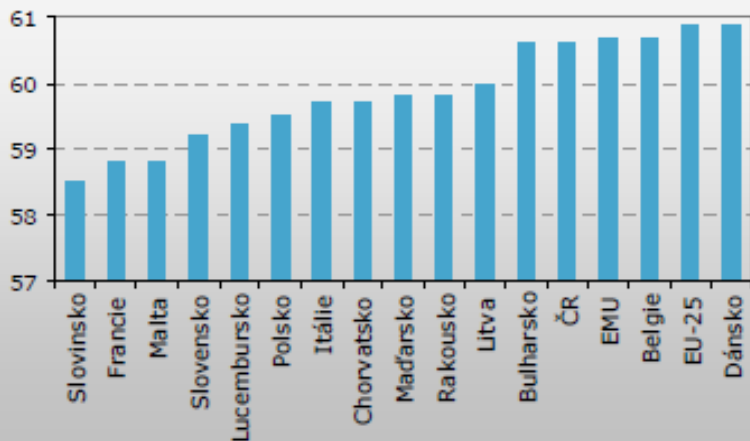
Zdroj: Eurostat

OČEKÁVANÁ DOBA DOŽITÍ 65LETÝCH OSOB (2000)



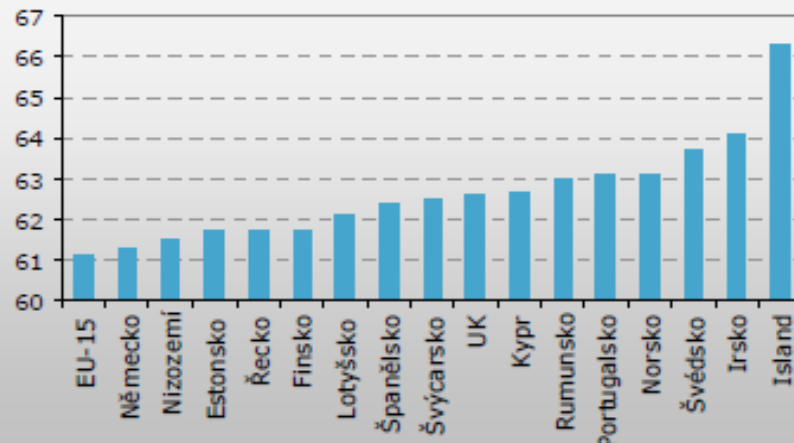
Zdroj: Eurostat

PRŮMĚRNÝ VĚK ODCHODU Z TRHU PRÁCE (2005)



Zdroj: Eurostat

PRŮMĚRNÝ VĚK ODCHODU Z TRHU PRÁCE (2005)

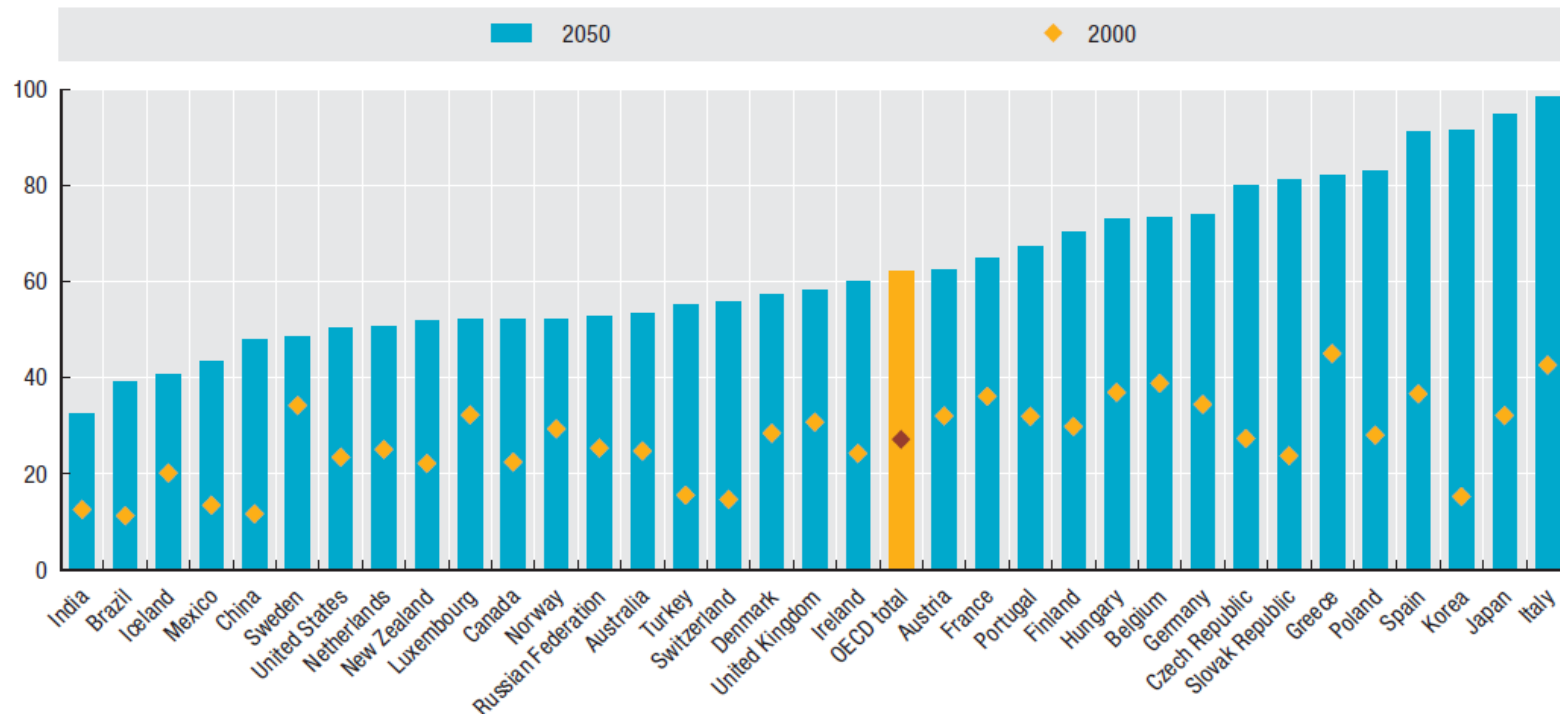


Zdroj: Eurostat

Spolehlivé prognózy...?

Ratio of the inactive elderly population aged 65 and over to the labour force

Percentage



6.3. Case study: Německý důchodový systém

Zdroj: Borsch-Supan, A. – Wilke, Ch. (2004): THE GERMAN PUBLIC PENSION SYSTEM: HOW IT WAS, HOW IT WILL BE.

NBER Working paper 10525

The German Public Pension System (1)

„The German pension system was the first formal pension system in the world, designed by Bismarck almost 120 years ago. It has been very successful in providing a high and reliable level of retirement income in the past at reasonable contribution rates, and it became a model for many social security systems around the world.

It has survived two major wars, the Great Depression, and more recently, unification. It has been praised as one of the causes for social and political stability in Germany.

Times have changed, however, and these days, this system is under severe pressure from population aging and adverse incentive effects. This paper addresses how this prototypical system emerged and where it will go.“

The German Public Pension System (2)

„As opposed to other countries such as the United Kingdom and the Netherlands, which originally adopted a Beveridgian social security system that provided only a base pension, public pensions in Germany were from the start designed to extend the standard of living that was achieved during work life also to the time after retirement.

Thus, public pensions are roughly proportional to labor income averaged over the entire life course and feature only few redistributive properties. The German pension system is therefore called „retirement insurance“ rather than „social security“ as in the United States, and workers used to understand their contributions as „insurance premia“ rather than „taxes“.

The insurance character is strengthened by institutional separation: the German retirement insurance system is not part of the government budget but a separate entity. This entity is subsidized by the federal government. Rationale for this subsidy – about 30 percent of expenditures – are so-called “noninsurance benefits” such as benefits paid to German immigrants after opening the iron curtain. Any surplus, however, remains in the system. It is not transferable into a “unified budget” such as in the United States.

The German Public Pension System (3)

The German retirement insurance started as a fully funded system with a mandatory retirement age of 70 years when male life expectancy at birth was less than 45 years. Today, life expectancy for men is more than 75 years but average retirement age is less than 60 and even lower in East Germany.

The system converted to a de facto pay-as-you-go system when most funds were invested in government bonds between the two world wars. After a long and arduous debate, the German Bundestag decided in 1957 to convert the system gradually to a pay-as-you-go scheme.

The remainder of the capital stock was spent about 10 years later. Since then, the German system is purely pay-as-you-go with a very small reserve fund lasting less than 14 days of expenditures in Spring 2004.

The German Public Pension System (4)

A second historical reform took place in 1972. It made the German pension system one of the most generous of the world. The retirement behavior visible in current data is mainly influenced by the reform. The 1972 system is generous in two respects.

First, the system has a high replacement rate, generating net retirement incomes that are currently about 70 percent of pre-retirement net earnings for a worker with a 45-year earnings history and average lifetime earnings. This is substantially higher than, e.g., the corresponding U.S. net replacement rate of about 53 percent. The high initial level of public pensions was exacerbated by indexation to gross wages.

Second, the 1972 reform abolished the mandatory retirement age of 65 years for those with a long service life⁵ in favor of a flexible choice during a “window of retirement” between age 63 and 65, with no actuarial adjustments. Adding to these very generous early retirement provisions were easy ways to claim disability benefits and low mandatory retirement ages for women and unemployed, further increasing the number of beneficiaries and extending the “window of retirement” between 60 and 65.

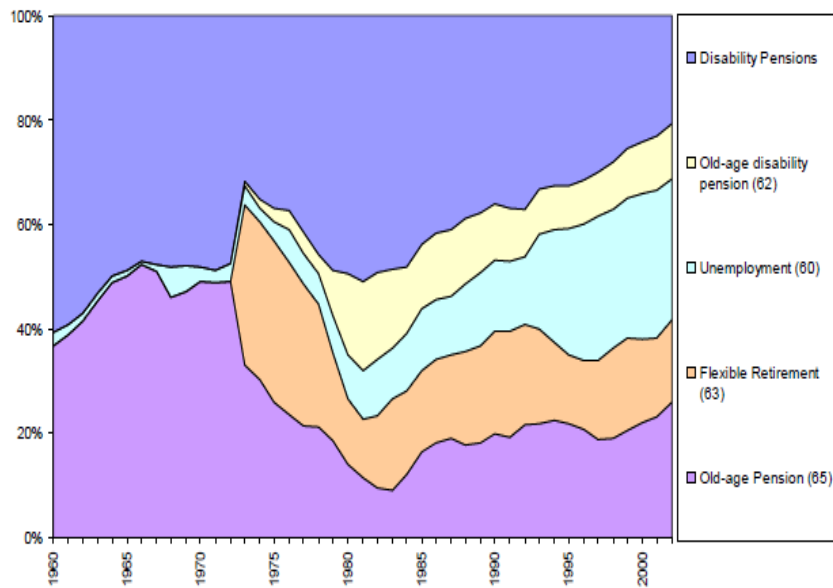
The German Public Pension System (5)

Table 1: The German Public Pension System from Bismarck until today

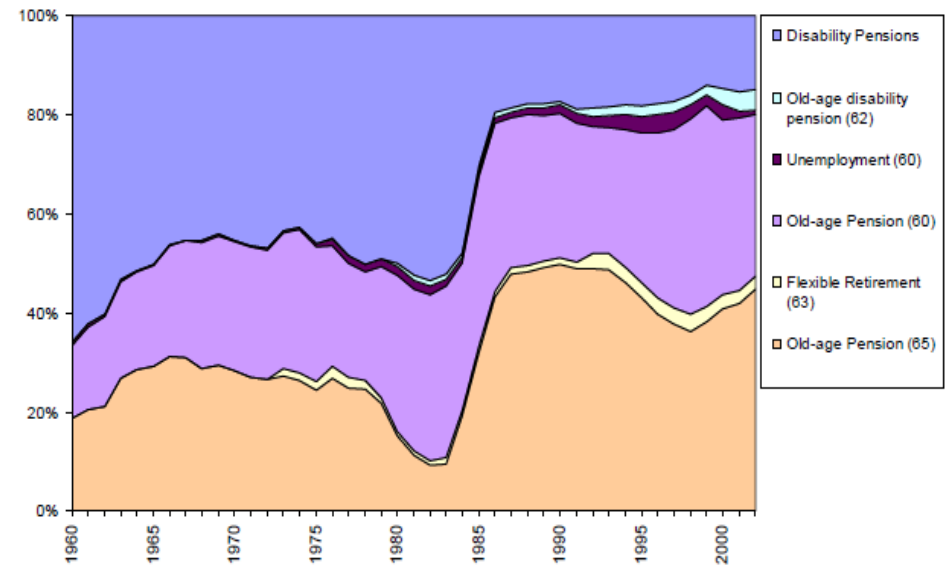
1889/1991	Introduction of capital funded disability pension Old age pension for workers age 70 and older Employer and employee share contributions equally	1968	Pure pay-as-you-go-system with minimum reserves for three months
1913	Retirement at age 65 (white-collar workers only)	1972	Public retirement insurance system open for all citizens (self-employed, housewives) Ex post payment of contributions becomes possible Flexible early retirement age for insured with a long service life (63) and disabled persons (60) New minimum pension mechanism
1916	Decrease in retirement age for disability pensions from 70 to 65	1977	Pension splitting option for divorced couples
1921-23	Inflationary compensation	1978	Minimum reserves are reduced to one month
1923	Retirement at age 65 (blue-collar workers)	1986	Benefits for child education (usually one year of service life) Equal treatment for men and women regarding survivor's pensions
1929	Retirement at age 60 for elderly unemployed (white-collar workers only)	1992	Integration of East Germany Indexing of pensions to net instead of gross wages and salaries Step-wise increase of retirement ages for unemployed, disabled and women Introduction of actuarial adjustments for early retirement Significant reduction in years of education counting towards service life Benefits for child education are raised to three years of service life
1957	Conversion into pay-as-you-go-system Contribution related pension benefits Safeguarding the standard of living in old age is main objective Dynamic benefits: indexed to gross wages and salaries Normal retirement age 65 Retirement at age 60 for elderly unemployed (blue-collar workers) Retirement for women at age 60		

The German Public Pension System (6)

Pathways to retirement - males

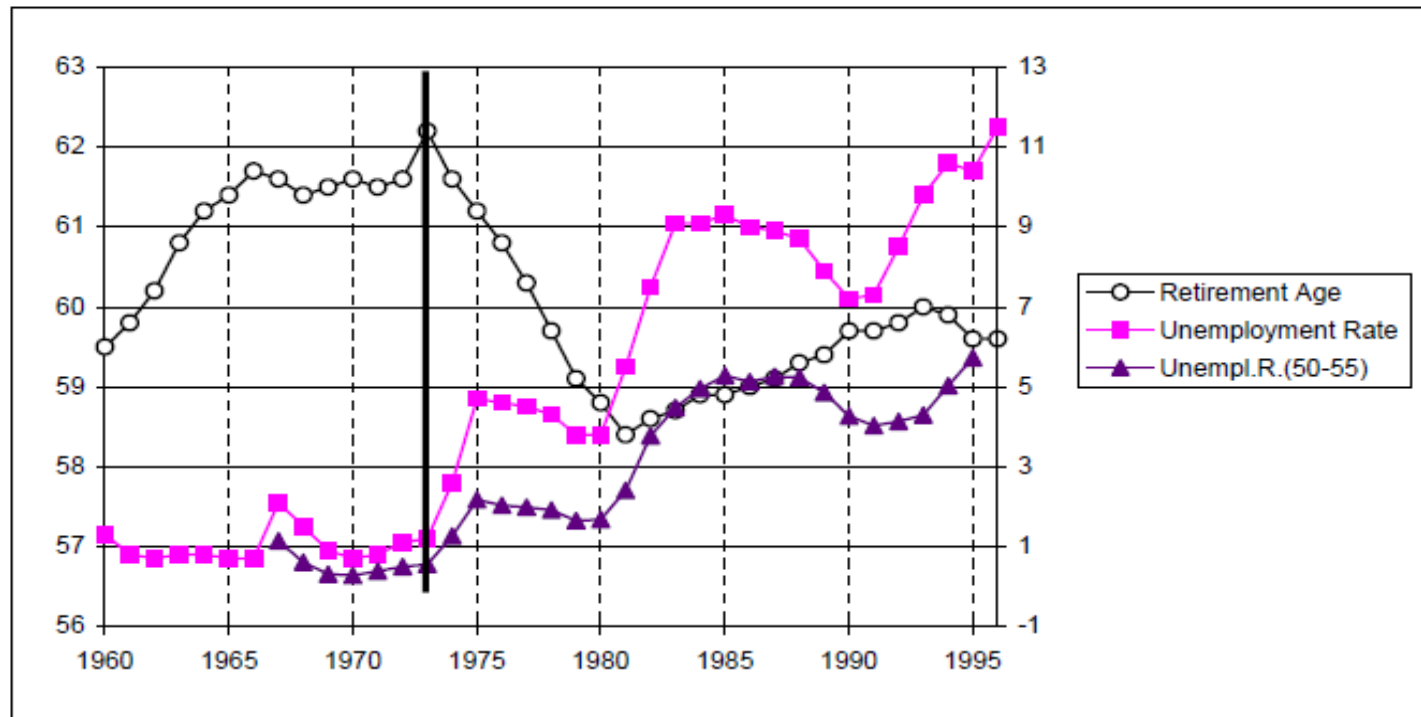


Pathways to retirement - females



The German Public Pension System (7)

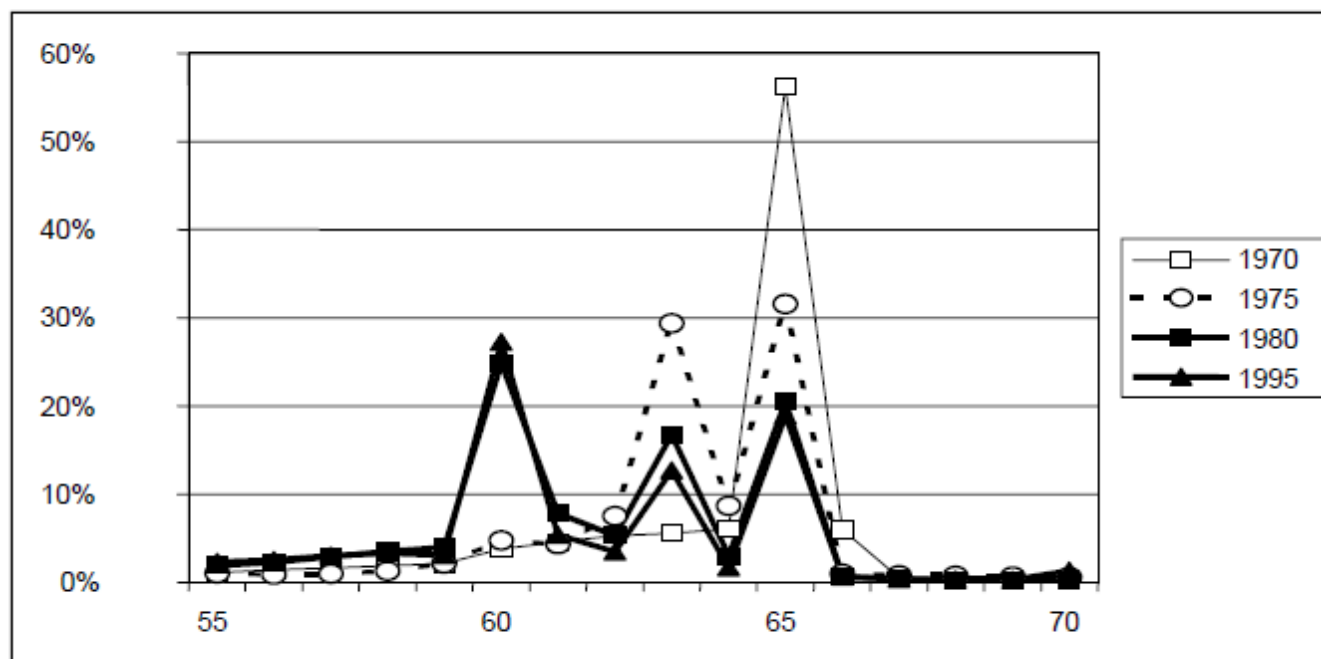
Figure 3: Average Retirement Age, 1960-1995



Note: „Retirement Age“ is the average age of all new entries into the public pension system. „Unemployment rate“ is the general national unemployment rate. „Unempl.R.(50-55)“ refers to male unemployed age 50-55.
Source: VDR 1997 and BMA 1997.

The German Public Pension System (8)

Figure 4: Distribution of Retirement Ages, 1970, 1975, 1980 and 1995



Source: Verband deutscher Rentenversicherungsträger (VDR), 1997.