

On the Replacement Adequacy of Canada's Retirement Income System

- is there a problem?
- what if the C/QPP were expanded
- would expansion of private savings help
- inter-generational fairness
- more on the “age of retirement”

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Acknowledgments and Caveats

- huge thanks to the LifePaths team in Statistics Canada's Modeling Division
- financial support over many years from Policy Research Initiative and Federal HRSDC
- full responsibility for the range of assumptions used in this analysis, and interpretation of results – Wolfson
- LifePaths is public domain; to do further simulations, feel free to contact Statistics Canada
- (caveat: LifePaths is a complex simulation model, some parts of which are relatively new ...)

Criteria for an Adequate Retirement Income System

- avoid poverty / “low income”
- support continuity of consumption / maintenance of living standards into retirement
- provide “safe” pensions = reduce uncertainty (or at least share risks fairly amongst individuals, employers, fellow employees, taxpayers)

Basic Conclusion re “Is there a problem?”

- about half of the “baby boom” population (those born between 1945 and 1970)
- in the middle 50% of the earnings distribution for their prime working age years (i.e. ages 40 to 65)
- can expect a decline in their net replacement rate (RR) / consumption possibilities after retirement
- of at least one-quarter

(see: http://www.irpp.org/pubs/IRPPstudy/IRPP_Study_no17.pdf)

What is the “Net Replacement Rate” (RR)?

- ratio of post-retirement “consumption possibilities” to those prior to retirement
- norm or objective: 100%; i.e. ability and likelihood of maintaining pre-retirement living standards after retirement
- “consumption possibilities” \equiv gross income less income and payroll taxes less savings plus dis-saving (i.e. running down assets)

Comments on “Net Consumption Replacement Rate (RR)”

- not the same as “gross income RR” or “net income RR”
- income RRs are easier to estimate and analyze, but not as close to the desired concept of “consumption possibilities”
- next slide shows basic accounting
- and then a slide showing the joint distributions

Replacement Rate (RR)

Adequacy – Basic Accounting

	Pre-Retirement	Post Retirement
add	earnings	public pensions
		RPP, RRSP and RRIF “income”
	imputed rent on owned home	imputed rent on owned home
		net withdrawals of home equity
subtract	income and payroll taxes	income taxes
	RPP and RRSP contributions	
	mortgage principal payments	
divide	EAU (= equivalence scale)	EAU (= equivalence scale)
result	“consumption” pre-retirement	“consumption” post-retirement

not included: work-related expenses, other investments (income, saving, dis-saving), consumer durables, business assets, inheritances and gifts inter-vivos

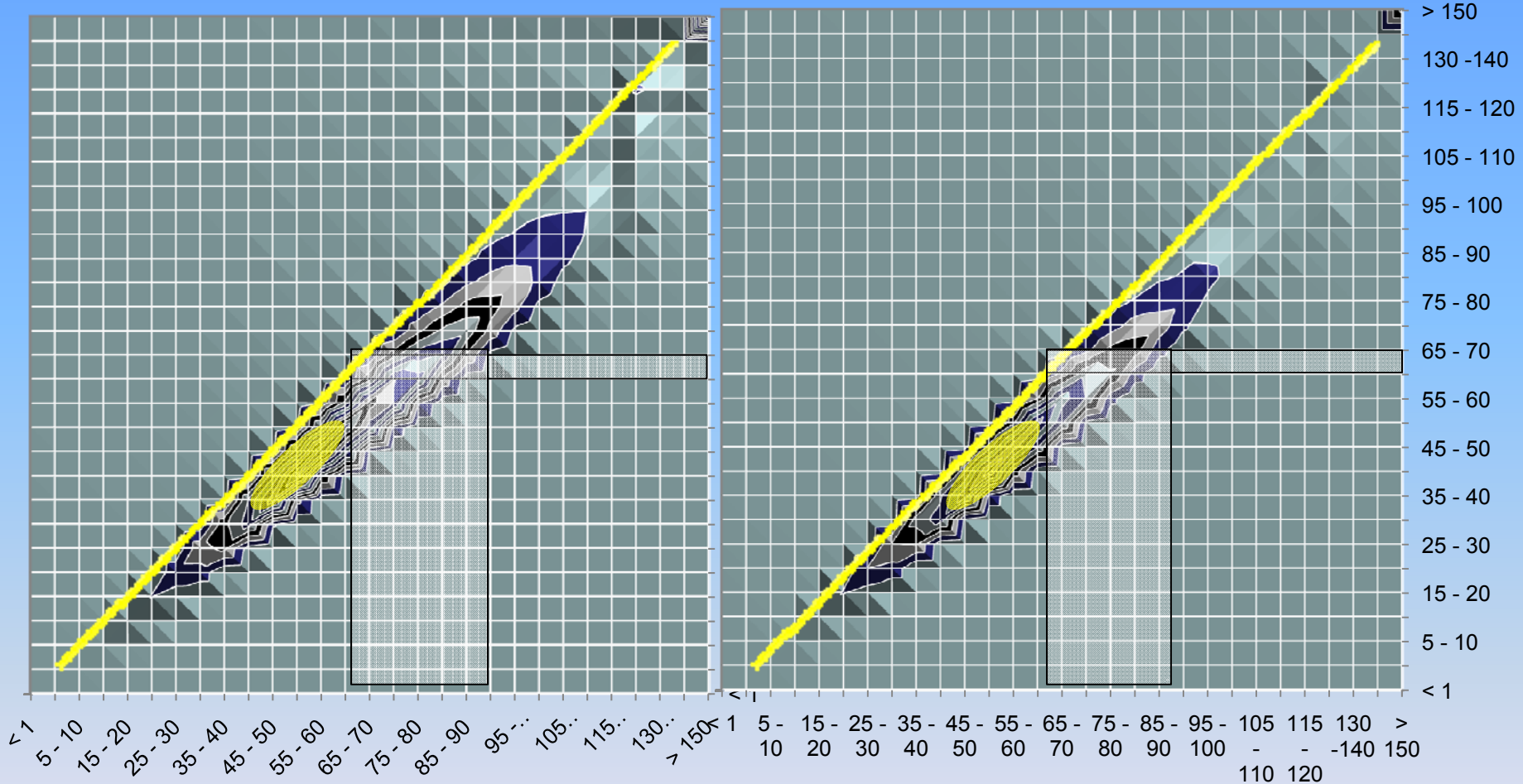
Analytical Method – LifePaths

- microsimulation model of the Canadian population and its interactions with the tax / transfer system
- longitudinal dynamics explicitly incorporated, based on integration of analyses of many data sets – including censi, LFS, SFS, FHS, T1, PPIC, etc.
- validation – against historical data, external peer reviews for selected modules
- “as if” ideal longitudinal microdata for huge sample (millions) of the Canadian population – both for the status quo and for selected “what if” scenarios
- results then simply cross-tabulations of synthetic but realistic full lifetime longitudinal population samples

Gross versus Net Replacement Rates

females

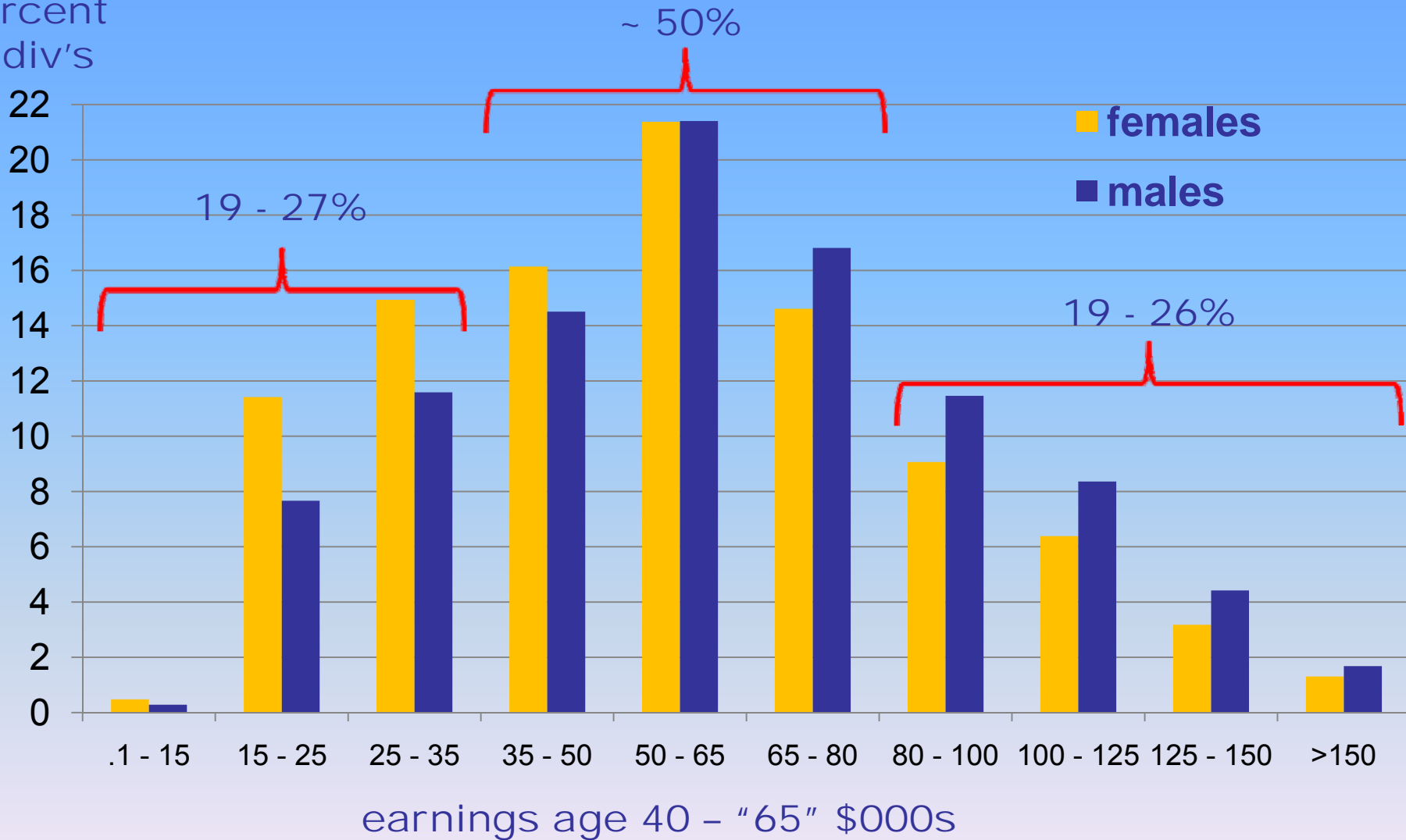
males



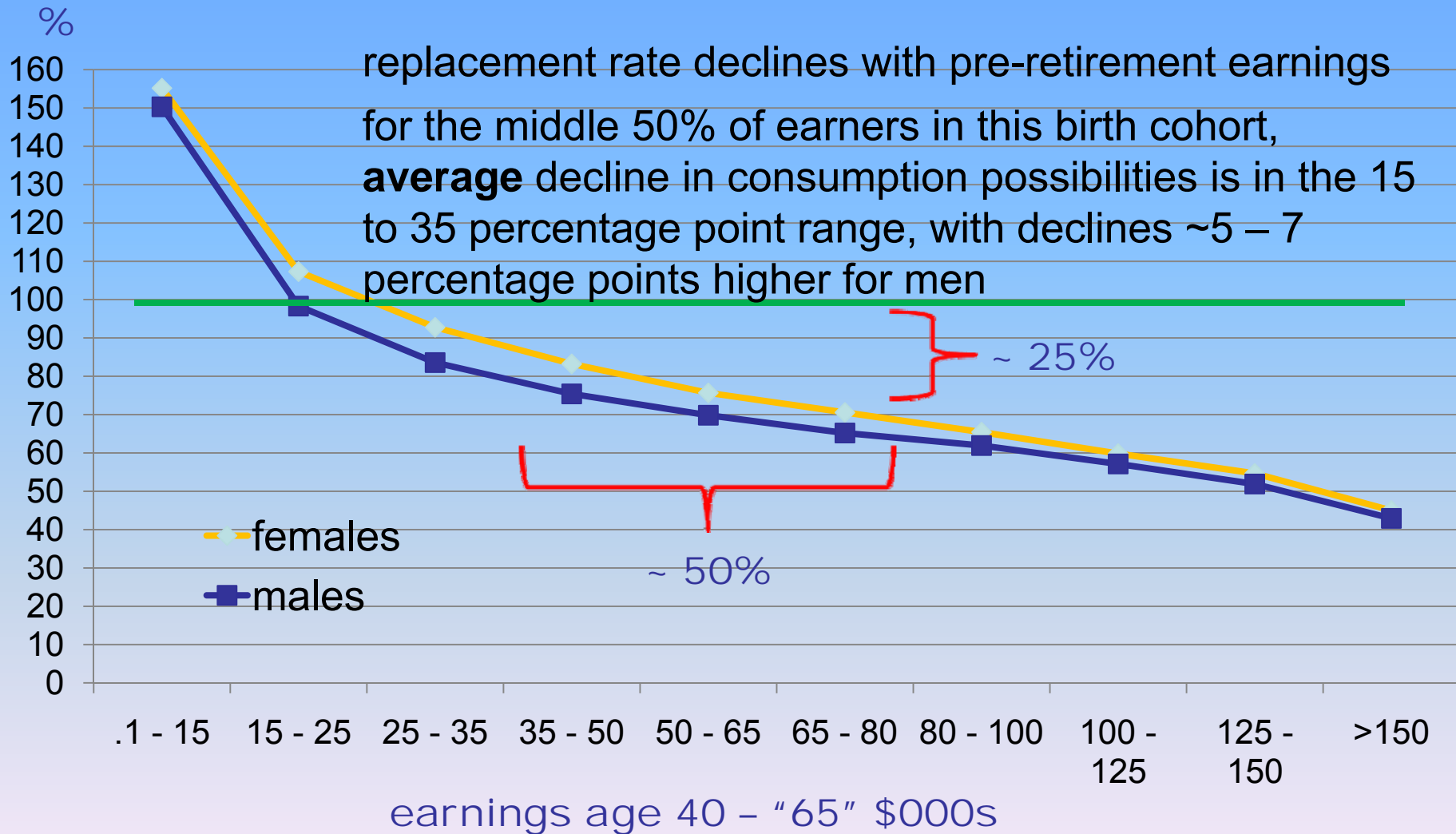
for realistically heterogeneous populations, a 60 to 70% **gross** RR translates into a 60 to 100% **net** RR, so that gross RRs are a poor proxy; better to do analysis directly in terms of net RRs

Prime Age (40 - "65") Earnings

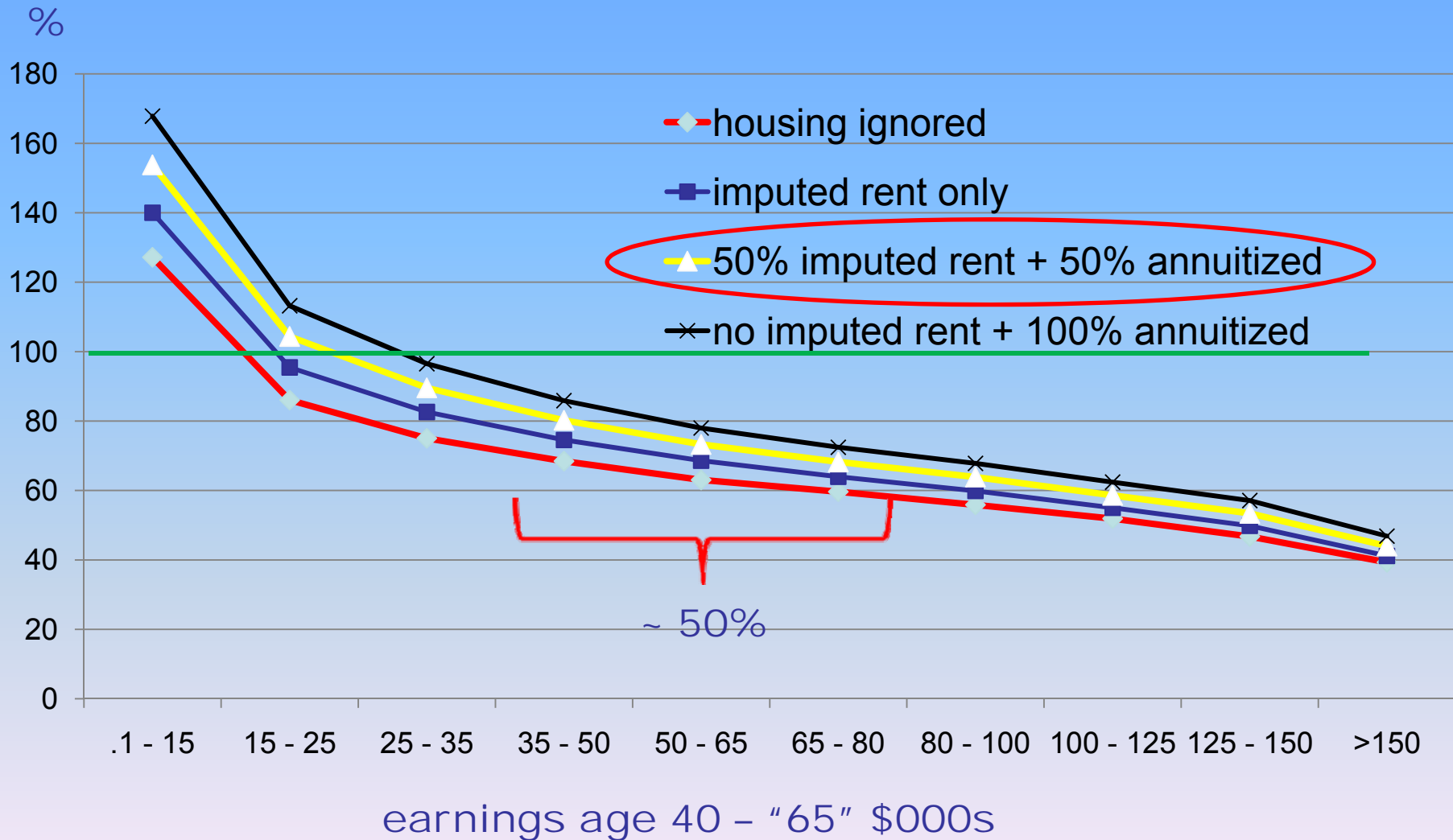
percent
indiv's



Average Net Replacement Rates by Prime Age Earnings – Main Result (1960-65 cohort)

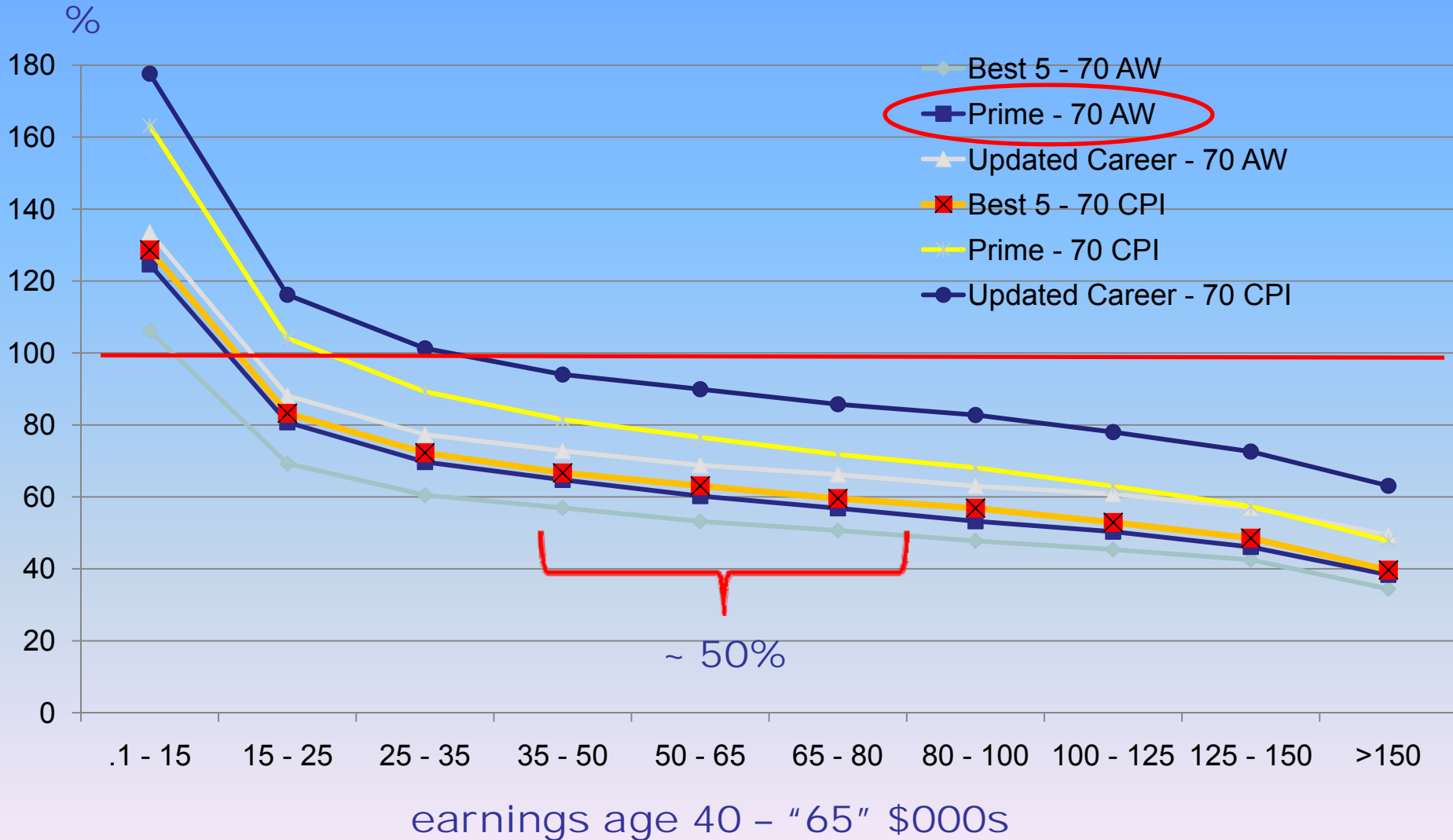


Average Net Replacement Rates by Prime Age Earnings – by Home Ownership



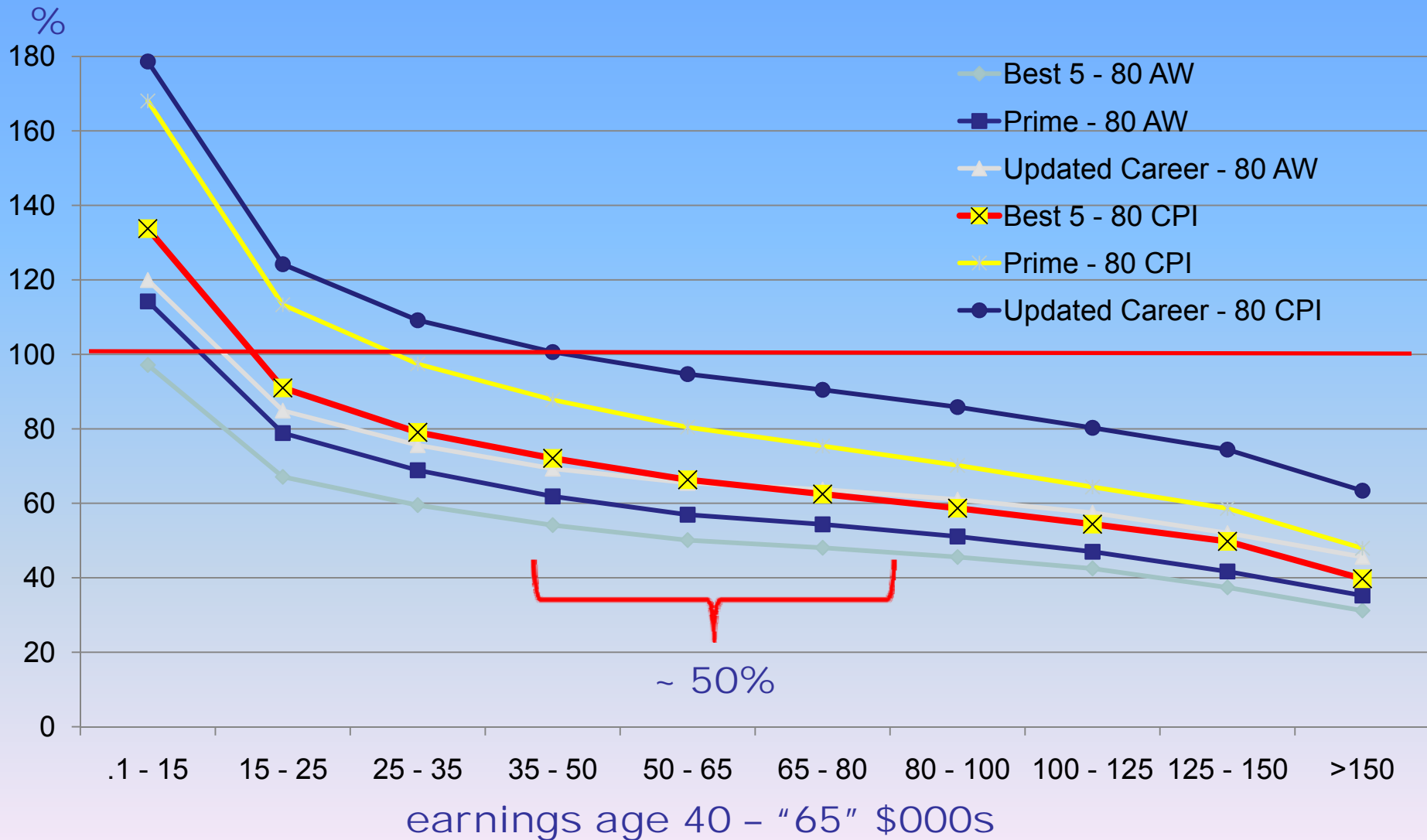
Average Net Replacement Rates

no housing, males, age 70, by earnings base and discounting



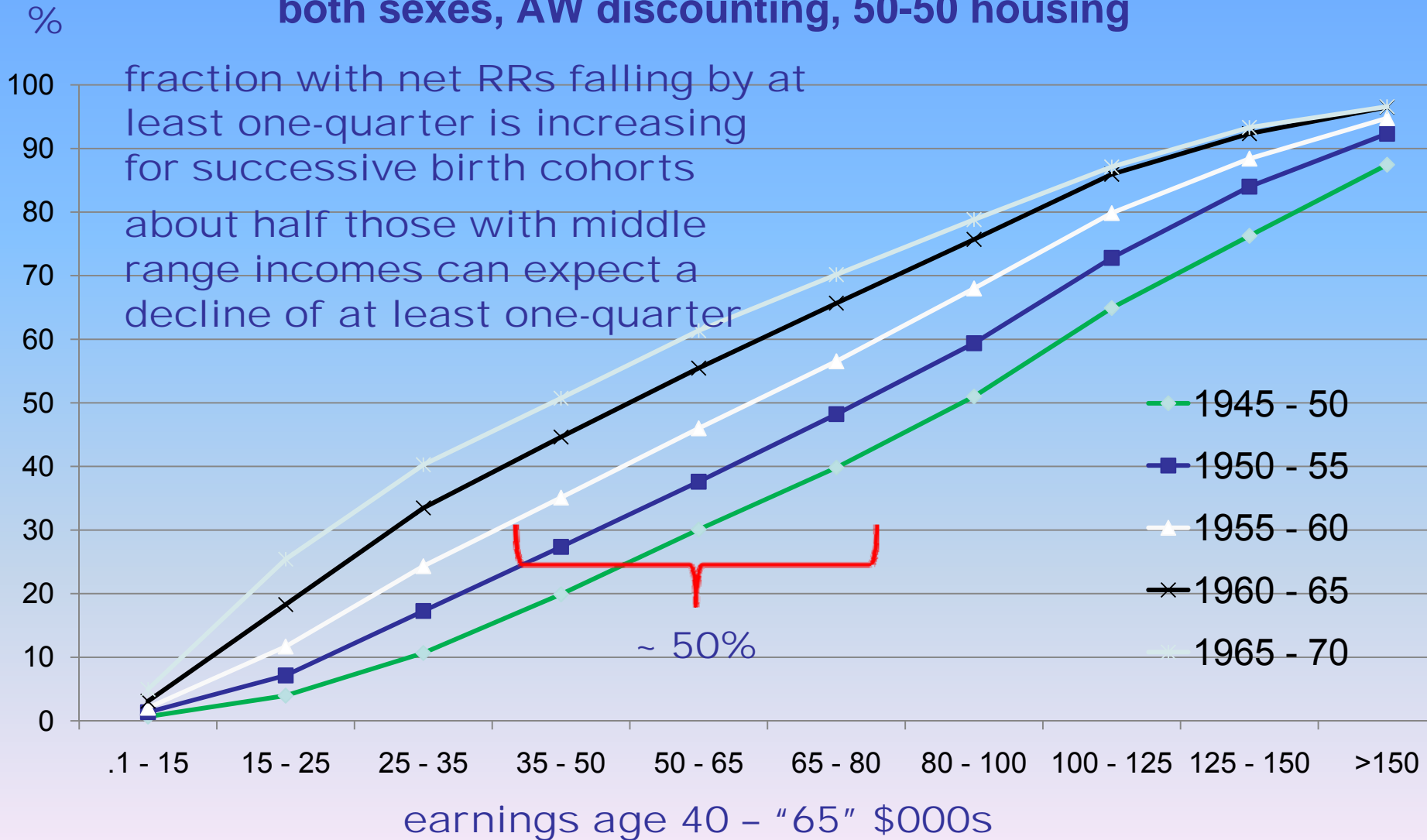
Average Net Replacement Rates

no housing, females, age 80, by earnings base and discounting



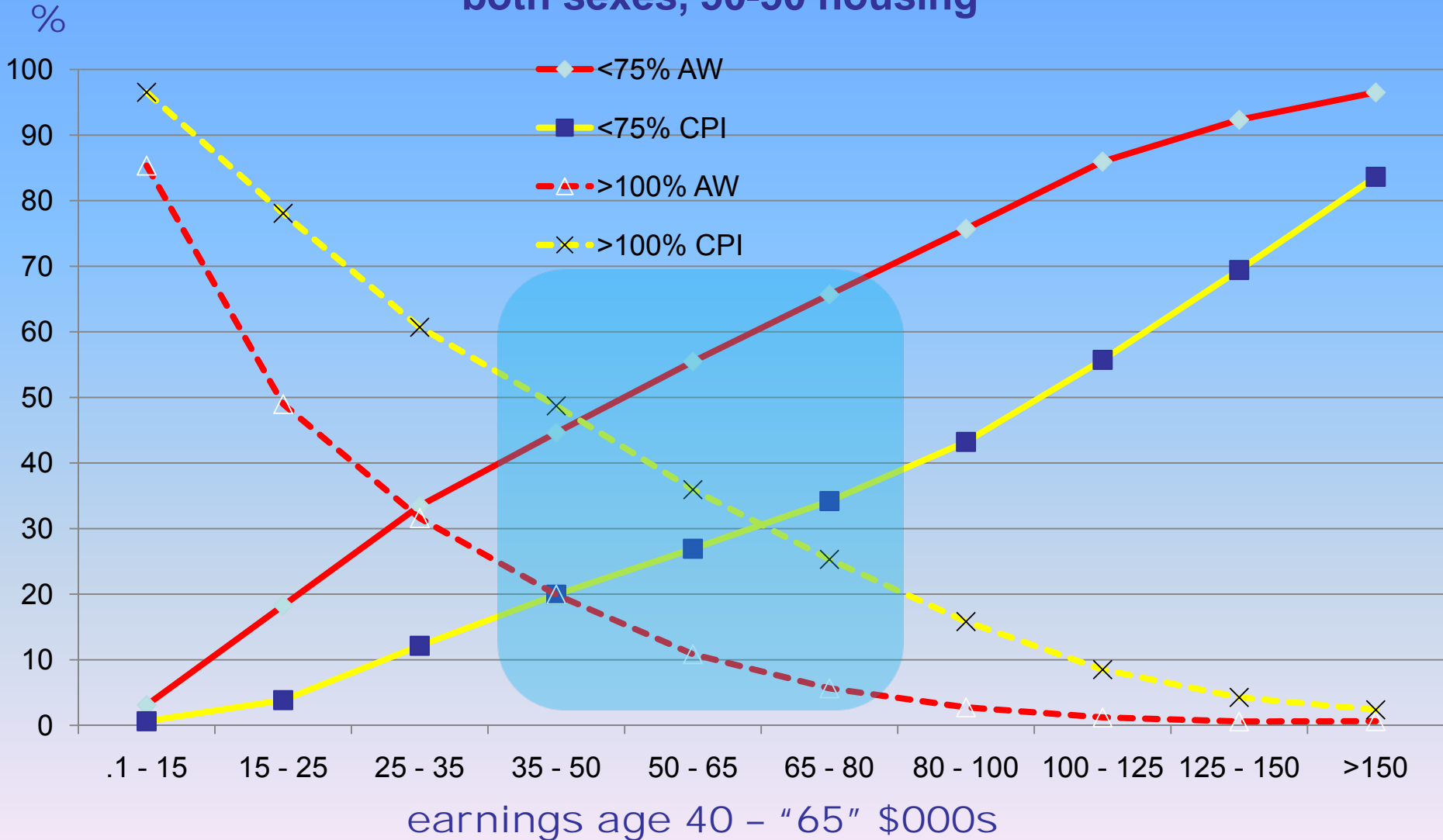
Fractions (%) with Net Replacement Rates Below 75% by Birth Cohort

both sexes, AW discounting, 50-50 housing



Fractions (%) with Net Replacement Rates Below 75% or Above 100% by Discount Rate

both sexes, 50-50 housing



“Houston, do we have a problem?”

- net replacement rate is correct concept to use for assessing adequacy in terms of maintaining living standards / continuity of consumption
- this concept is difficult to operationalize
- results are sensitive to: birth cohort, earnings base, discount factor, treatment of housing, age 70 versus 80
- nevertheless – about half of middle (50%) income baby boomers will face a decline in net consumption of at least one-quarter

Private Sector Options

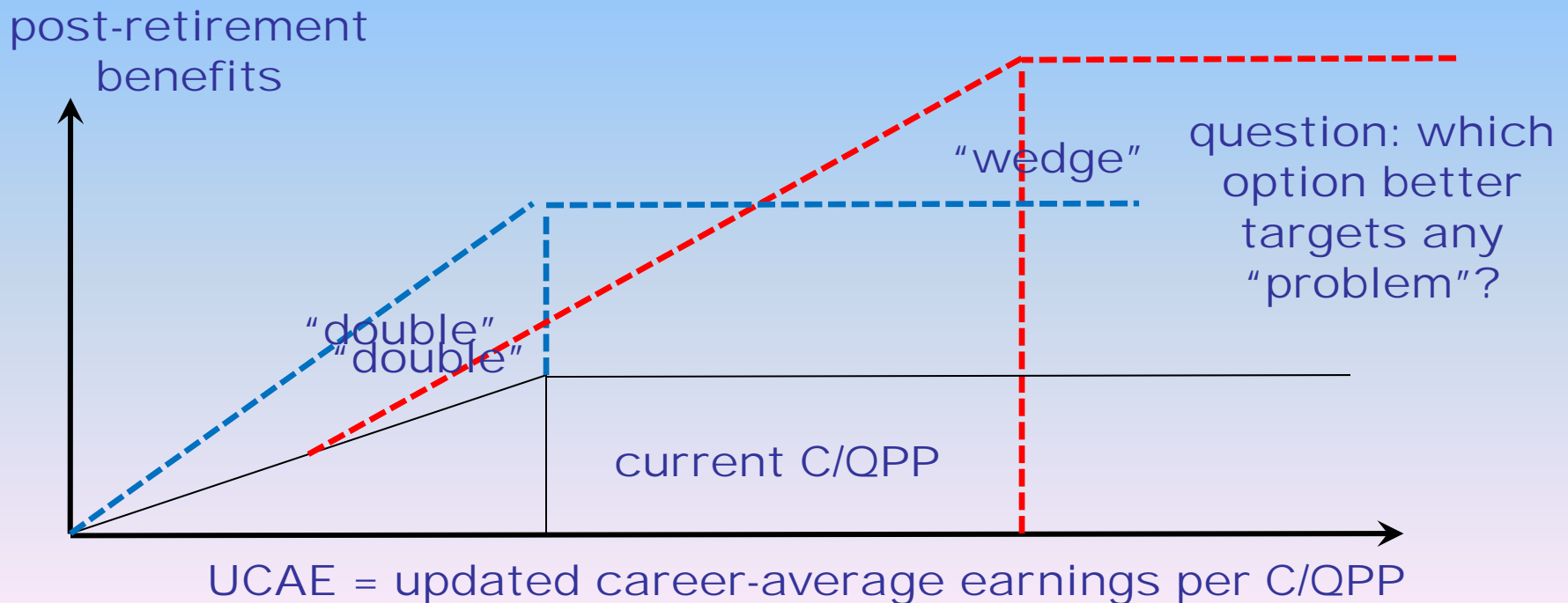
- DB RPPs – checkered history
 - “aggressive” actuarial assumptions
 - opposition to early 1980s “excess interest” indexing
 - tension between limiting tax deferral (Income Tax Act) and assuring adequate financial security for plan members (Pension Benefits Standards Acts)
- Tax Assistance
 - incentives poorly targeted compared to adequacy gaps
 - recall 1983 Parliamentary Ctte – target middle not upper incomes
- DC Plans (both RRSPs and RPPs)
 - Ambatscheer ideas – much lower MERs, phased entry to annuity markets (if not RRIFs)

Public Sector Options / Challenges

- obvious options – “modest expansion” of CPP (and QPP)
- but what about long run indexing of OAS / GIS / SPA / income tax
- raising age of entitlement to public pensions / “normal age of retirement”
- inter-generational fairness
- “health care represents an even larger unfunded liability than public pensions”

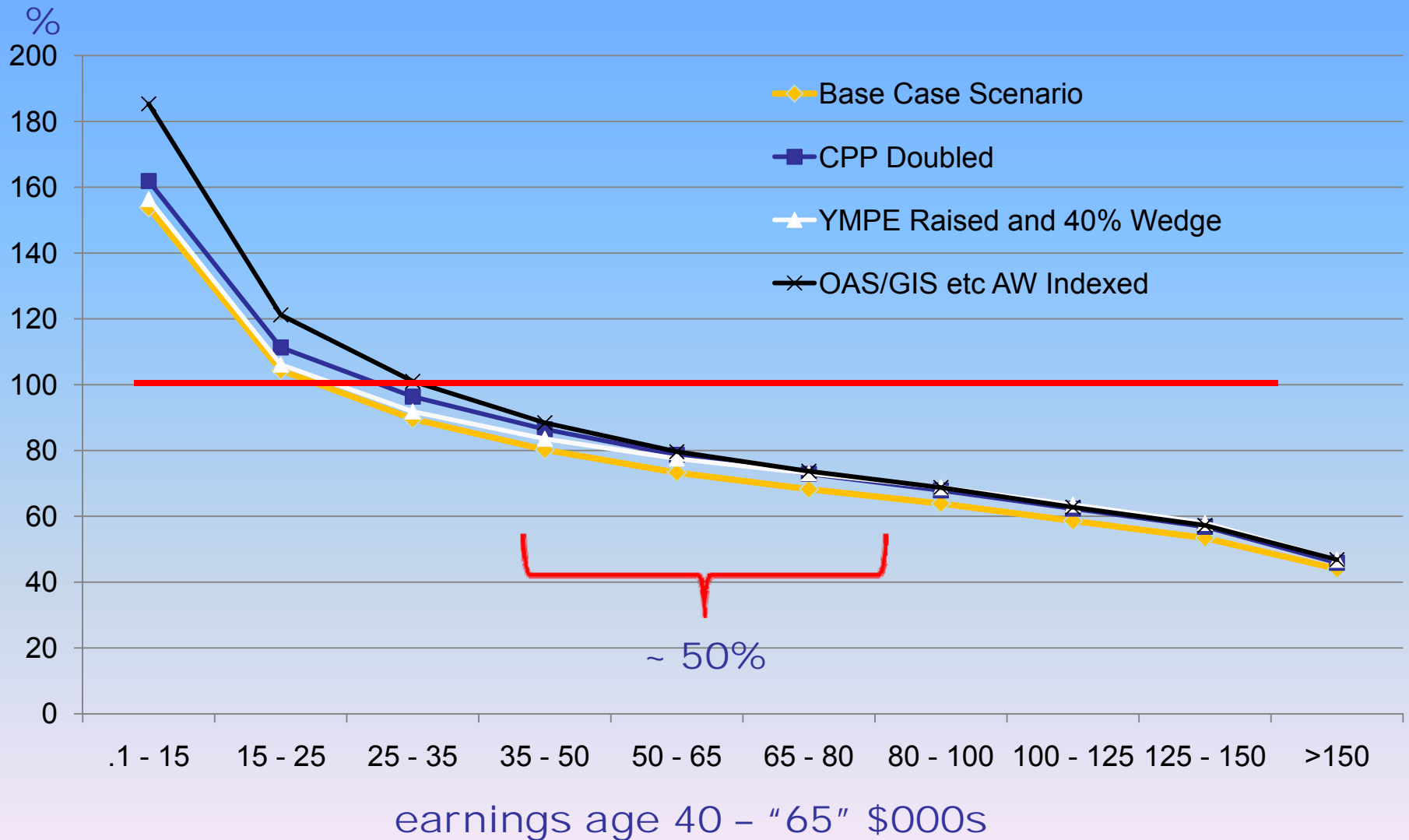
Expansion of Mandatory DB Benefits

- “double C/QPP” – increase nominal replacement rate by 25%, no change to YMPE (or to YBE)
- “wedge” – increase replacement rate to 40% starting at $\frac{1}{2}$ AW and extend up to 2 AW
- cost – proportional to 5.2% payroll for future service cost of current C/QPP retirement + post-retirement survivor



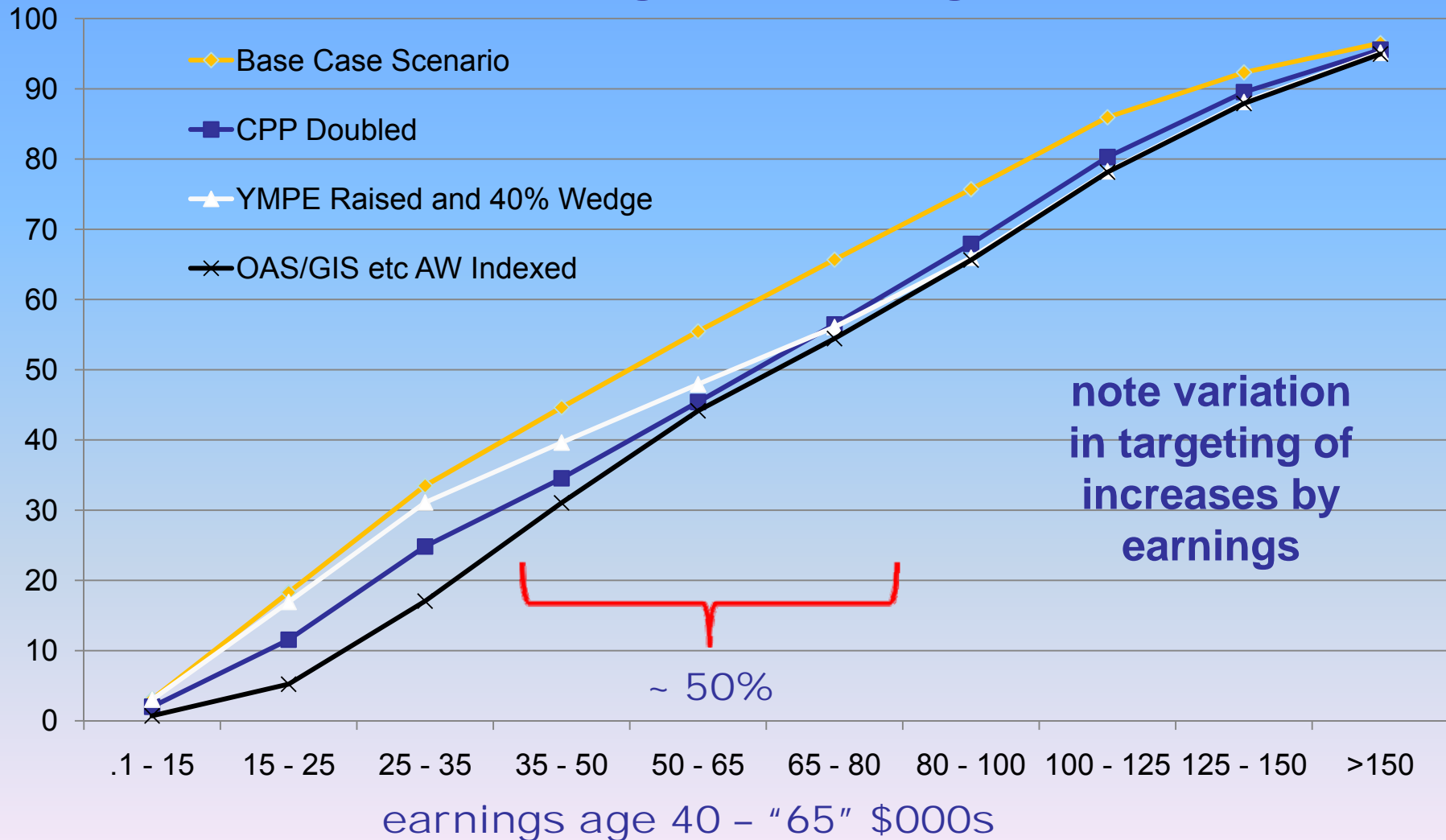
Average Net Replacement Rates

both sexes, AW discounting, 50-50 housing, 1960-65 cohort



Fraction (%) with Net Replacement Rate below 75% by Reform Scenario

% both sexes, AW discounting, 50-50 housing, 1960-65 cohort



What About Tax Incentives for Private Savings?

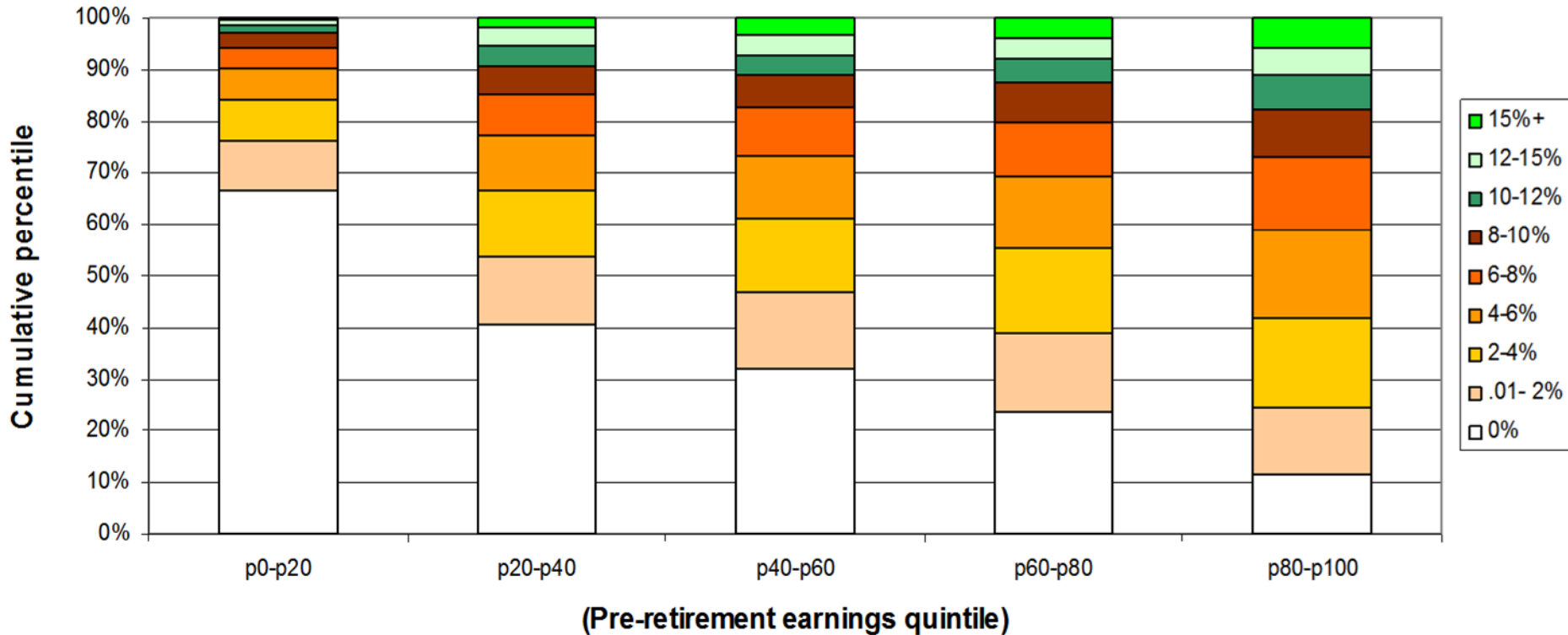
“For the same dollar of contribution to a registered pension plan or RRSP, the current tax system provides a larger benefit to individuals in higher tax brackets. Some witnesses found this inequitable. More important, the fact that the tax benefit is worth more to those with higher incomes means that its effectiveness in encouraging people to save for retirement is strongest in the upper income groups and much weaker in lower and middle income groups.”

“...We feel that there should be a reasonable limit on the maximum private pension that can be accrued with preferential tax treatment” (effectively up to full replacement at about the income of a high school principal)

Report of the Parliamentary (Frith) Task
Force on Pension Reform, 1983, p64

What About Increasing Private Savings? (from Kevin Moore, CEA, June 2011)

**Stacked distribution of required "new saving rates" to reach 90% consumption replacement in retirement by pre-retirement earnings quintile
(2046-2050 retirement cohort, TER 1.5%)
(TER = total expense ratio)**



What About Inter-Generational Fairness? (I)

“We have concluded that something along the lines of wage indexing is necessary for public pensions. However, we are not sure that the AIW is the best indexing factor. An appropriate adjustment factor should be simple and easy to understand. It should also have characteristics such that benefits would be higher when

- real average wage growth is higher,
- labour force participation is higher,
- unemployment is lower, or
- the old-age dependency ratio is lower,

and would be lower when the opposite circumstances prevailed.

Report of the Parliamentary (Frith) Task
Force on Pension Reform, 1983, p17

What About Inter-Generational Fairness? (II)

- “To portray America as riven by generational warfare, young against old, is therefore an exaggeration. Worse, it obscures a deeper divide, of class rather than age. ... The big problem of the American welfare state is not that the old get too much, but that the rich do.”
(Economist, January 11, 1997)

“While there is great concern about the effects of increasing longevity on pension costs and hence on inter-generational fairness, our simulations suggest that for quite a wide range of life expectancy scenarios, this has a much smaller impact than the strength of the economy

“notwithstanding ... widely expressed concerns regarding inter-generational fairness, ... differences within generations are far larger than those between generations. Women’s net lifetime transfers minus taxes are hundreds of thousands of dollars greater than those for men, while the differences between the poor and the rich within any given generation are larger still.”

(Wolfson and Rowe²⁷, 2007, JEI)

LifePaths Simulation of Sources of Variance in Net Present Values of Lifecycle Benefits (pensions, health, education) – Taxes (income, payroll) 1890s to 1990s Decadal Birth Cohorts

<u>Source</u>	<u>Leg'd</u>	<u>Rel</u>
Birth Cohort (BC)	2.3	1.1
Earnings Group (EG)	20.3	16.5
BC x EG	8.9	5.2
EG x Sex	2.5	1.2
BC x EG x Sex	0.2	0.1
Individuals within Groups	65.8	75.8

(Wolfson and Rowe, 1997)

What About the Age of Retirement?

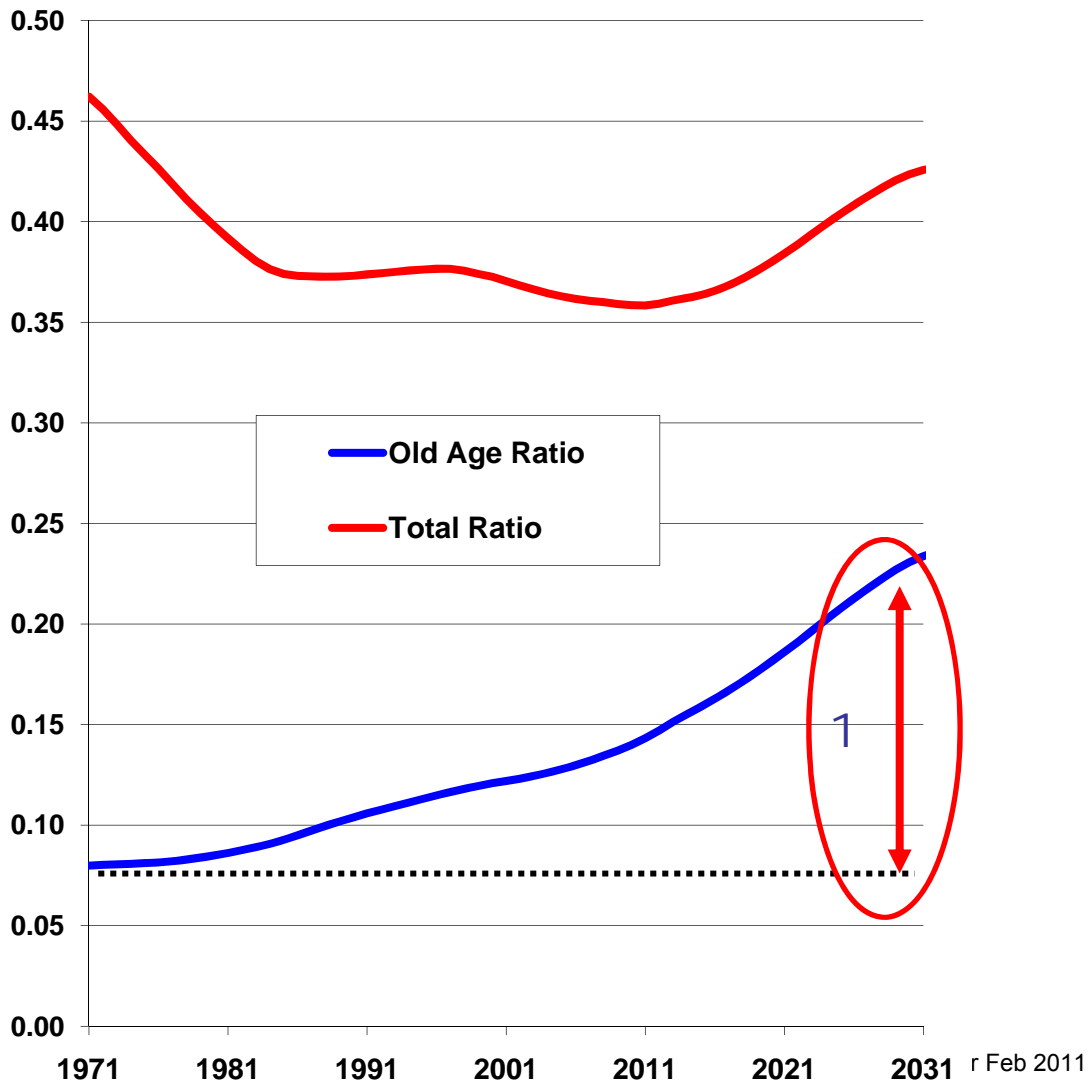
“Nowadays a major current source of structural strain is the long-term failure of our institutions to accommodate the steady rise in the proportion of people who are old. Large strata of older people have been added at the top of the traditional age pyramid, but no comparable activities have been prescribed for them either in the work force or the family; and no adjustments have been made for repercussions in all the other strata. This "structural lag" means (apart from individual dislocations) that human resources in the oldest-and also the youngest-strata are underutilized, and excess burdens of care are imposed upon strata in the middle years.”

Matilda White Riley, Presidential Address,
American Sociological Association 1986 (p9-10)

Alternate Views of the "Aging Burden"

(LifePaths estimates)

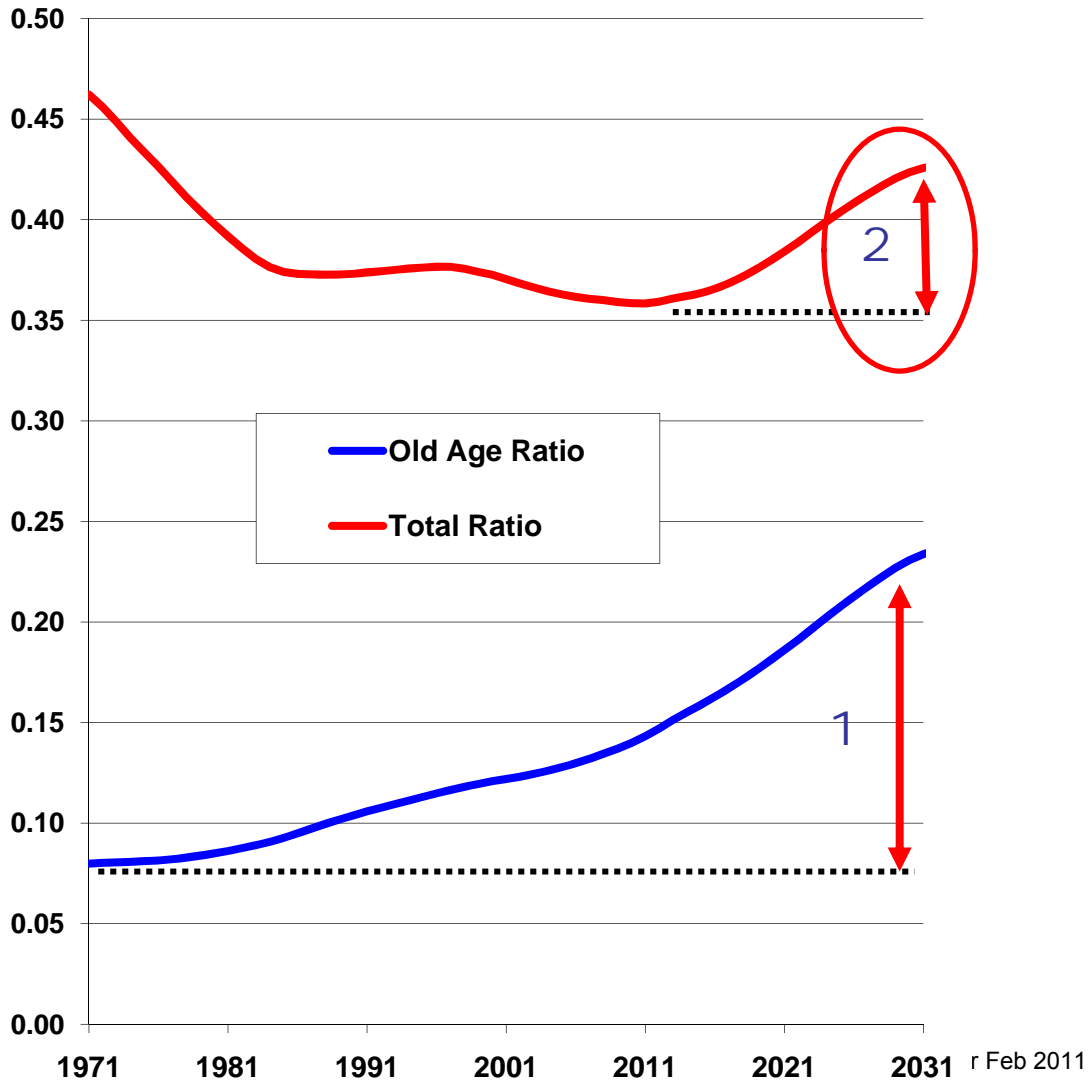
Demographic Ratios



Alternate Views of the "Aging Burden"

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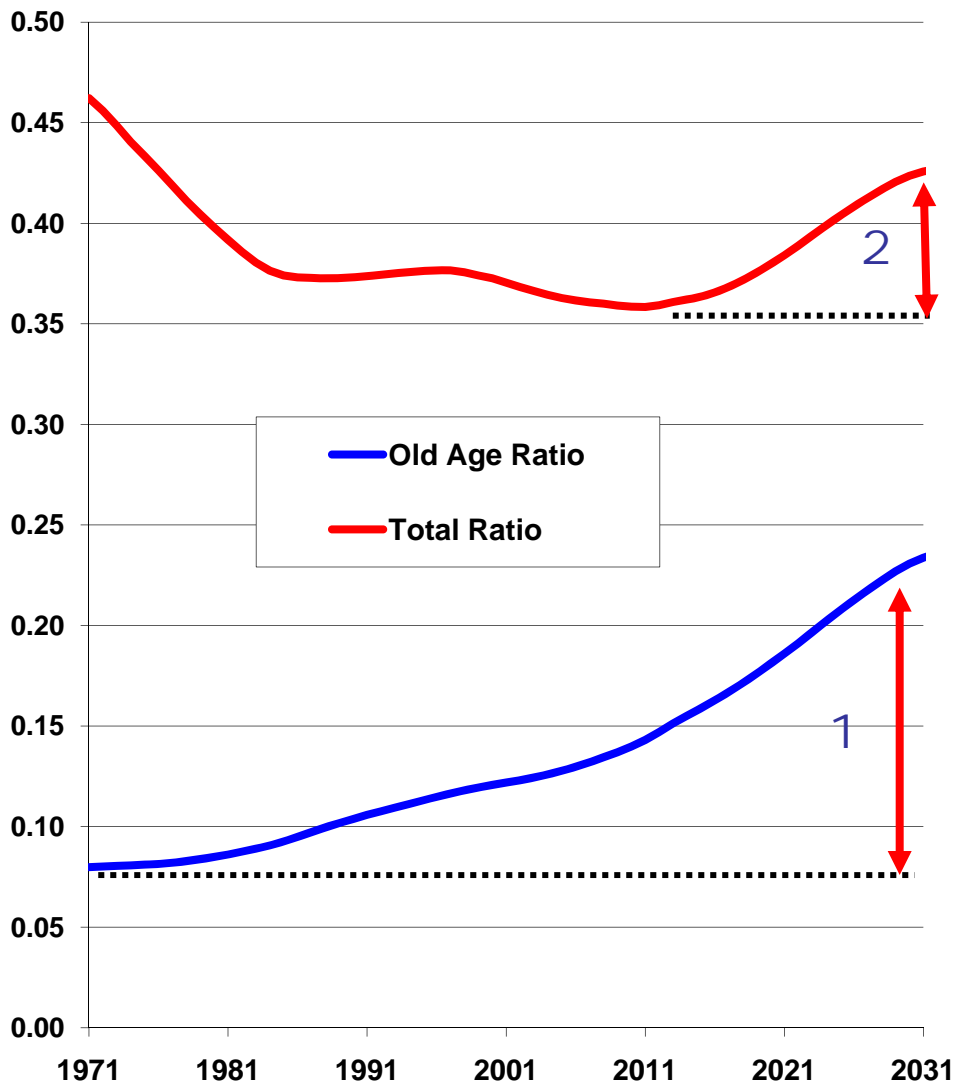
Demographic Ratios



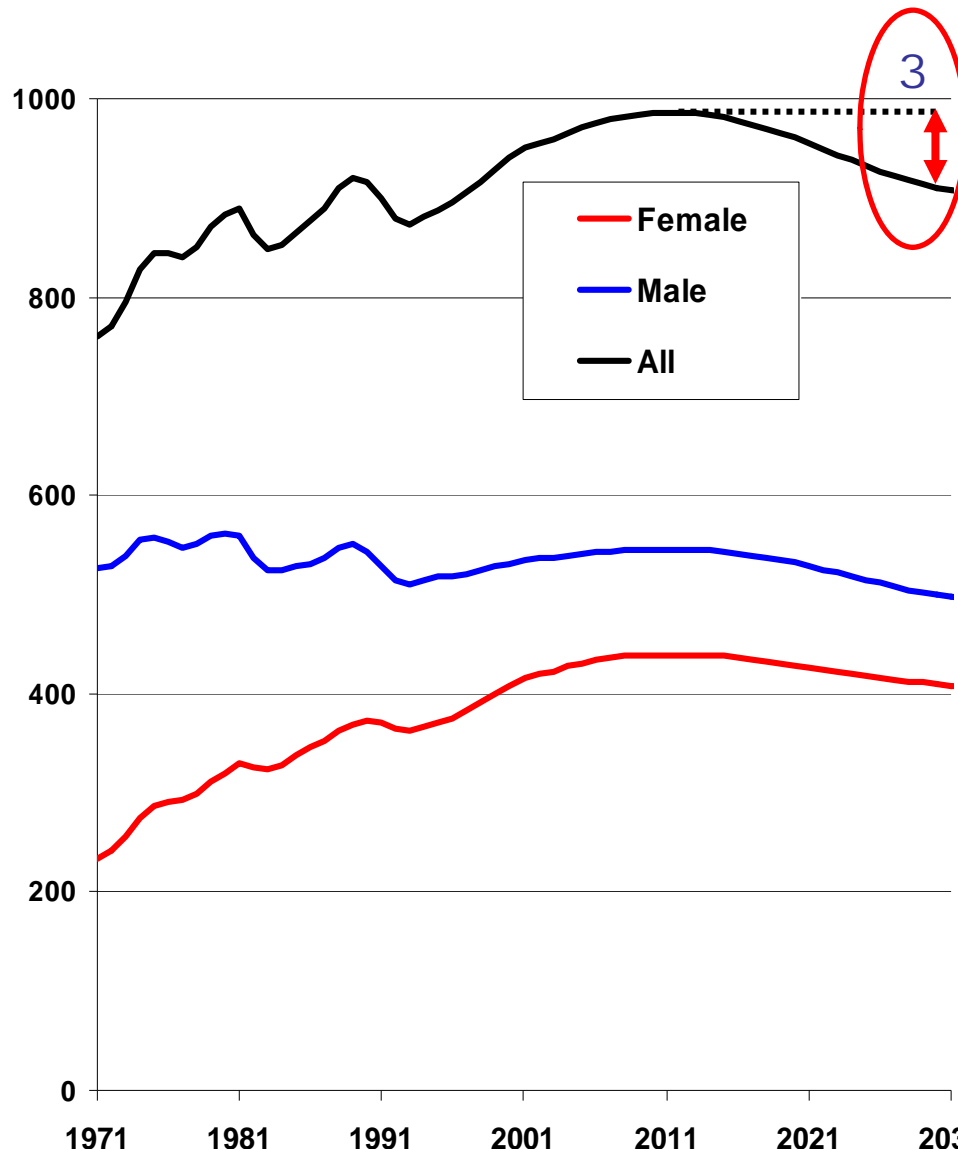
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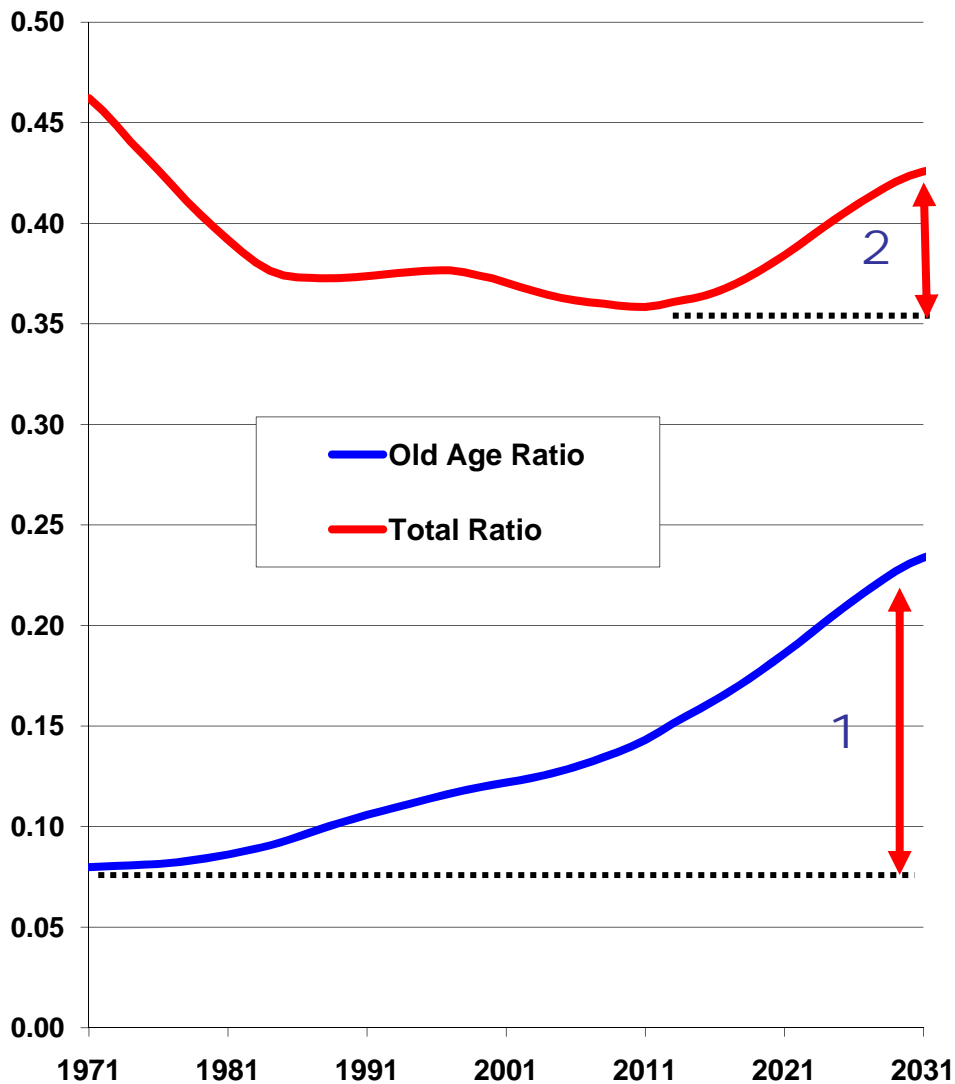
Annual Paid Hours of Work / Person



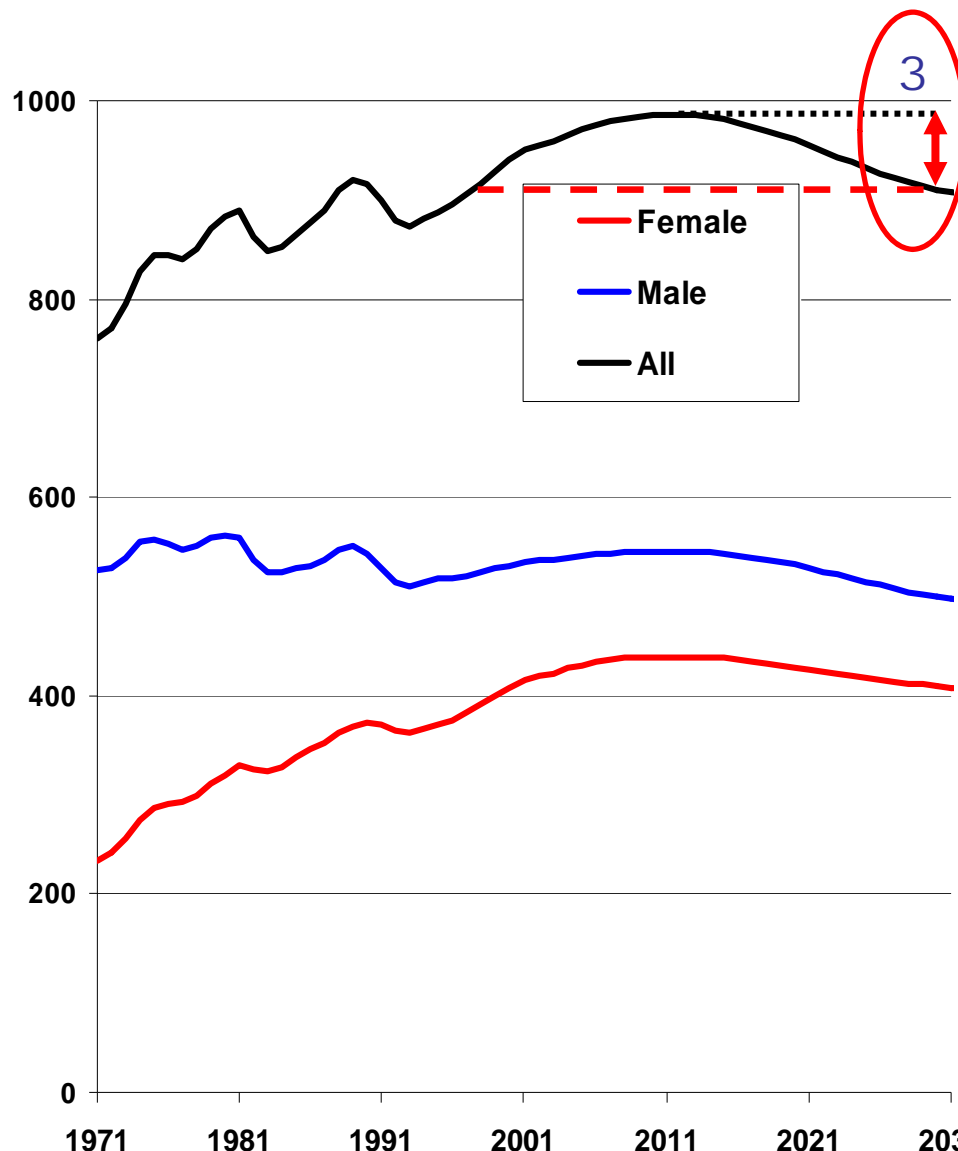
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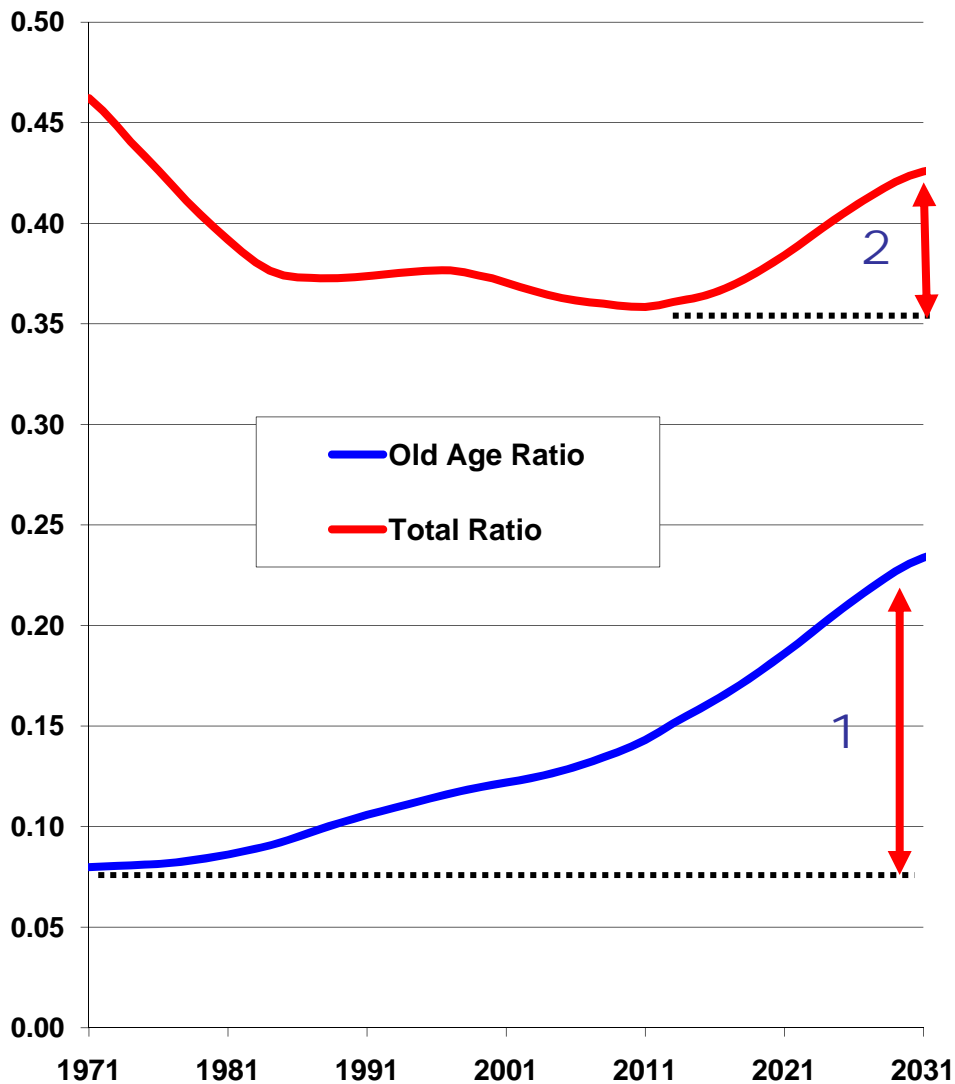
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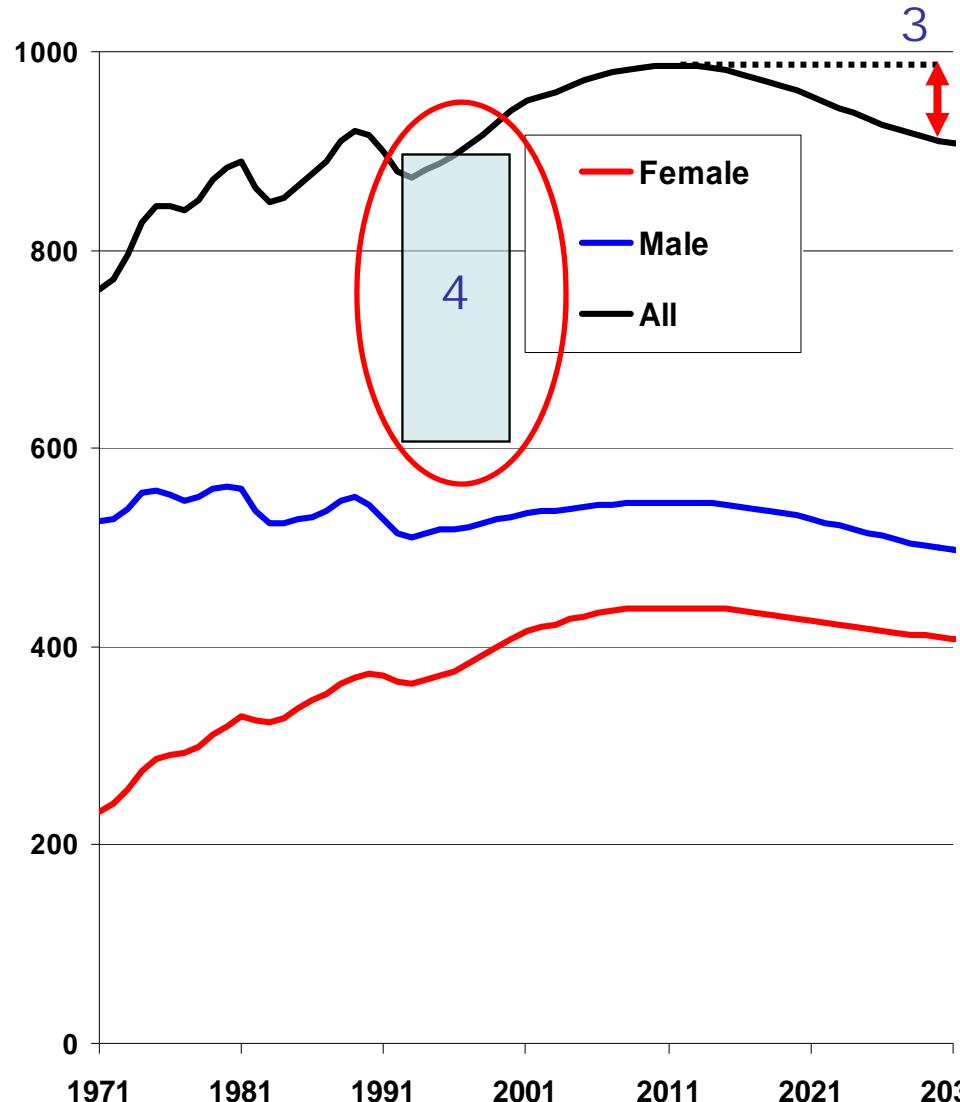
Alternate Views of the "Aging Burden"

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Demographic Ratios



Annual Paid Hours of Work / Person



Leisure Is Not Always the Most Valued Use of Time (2005 GSS)

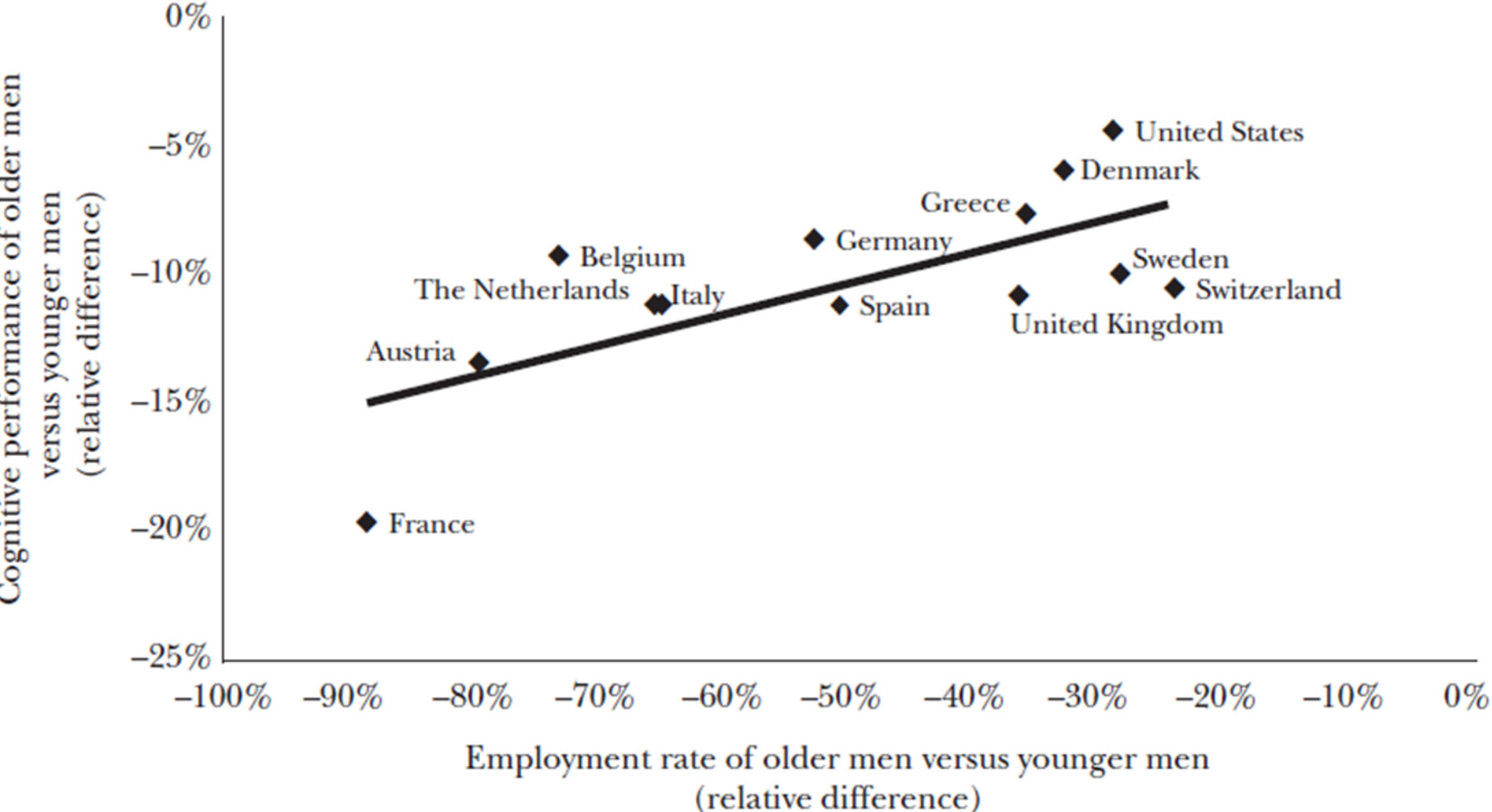
	Age Groups						
	<u>all*</u>	<u>males</u>	<u>females</u>	<u>15-24</u>	<u>25-44</u>	<u>45-64</u>	<u>65+</u>
Cleaning	2.4	2.2	2.6	2.1	2.4	2.5	2.8
Groceries	2.7	2.5	2.8	2.6	2.6	2.6	2.9
Maintenance	2.9	3.3	2.5	2.6	2.9	3.0	3.1
Other Shopping	3.0	2.5	3.4	3.5	2.9	2.7	2.9
Communting	3.0	3.0	3.0	2.8	3.0	3.2	3.8
Clubs	3.1	3.0	3.1	3.4	3.1	2.9	3.0
Volunteering	3.3	3.0	3.5	3.1	3.2	3.4	3.5
Cooking	3.3	3.1	3.4	3.1	3.3	3.3	3.3
TV	3.3	3.3	3.2	3.4	3.2	3.1	3.6
Social Events	3.5	3.3	3.7	3.8	3.5	3.3	3.2
Movies / Plays	3.7	3.7	3.7	4.3	3.9	3.4	2.9
Paid Work	3.8	3.8	3.8	3.7	3.7	3.9	4.2
Dining Out	4.0	3.8	4.1	4.0	4.1	3.9	3.7
Supper at Home	4.0	4.1	4.0	3.8	4.1	4.1	4.1

* basis for sorting

five-point scale with 1 being “dislike a great deal” and 5 being “enjoy a great deal”

“Use It or Lose It” – Rohweder and Willis, JEP 2010

Drop in Cognitive Performance as a Function of Drop in Employment Rate between Men 50–54 and 60–64 Years Old



Concluding Comments

- yes Houston, there are problems – but they may not be the ones you’re thinking of:
 - retirement income adequacy, not only affordability
 - phase in for C/QPP expansion – more rapidly needed
 - inter-generational equity – yes, but do properly
- private savings
 - unlikely to work
 - Ambatscheer ideas (MER, maturing to annuities) good
 - recall 1983 Frith Task Force re tax incentives – retarget
- “age of retirement”
 - definitely worth exploring – for health and social as well as economic reasons