

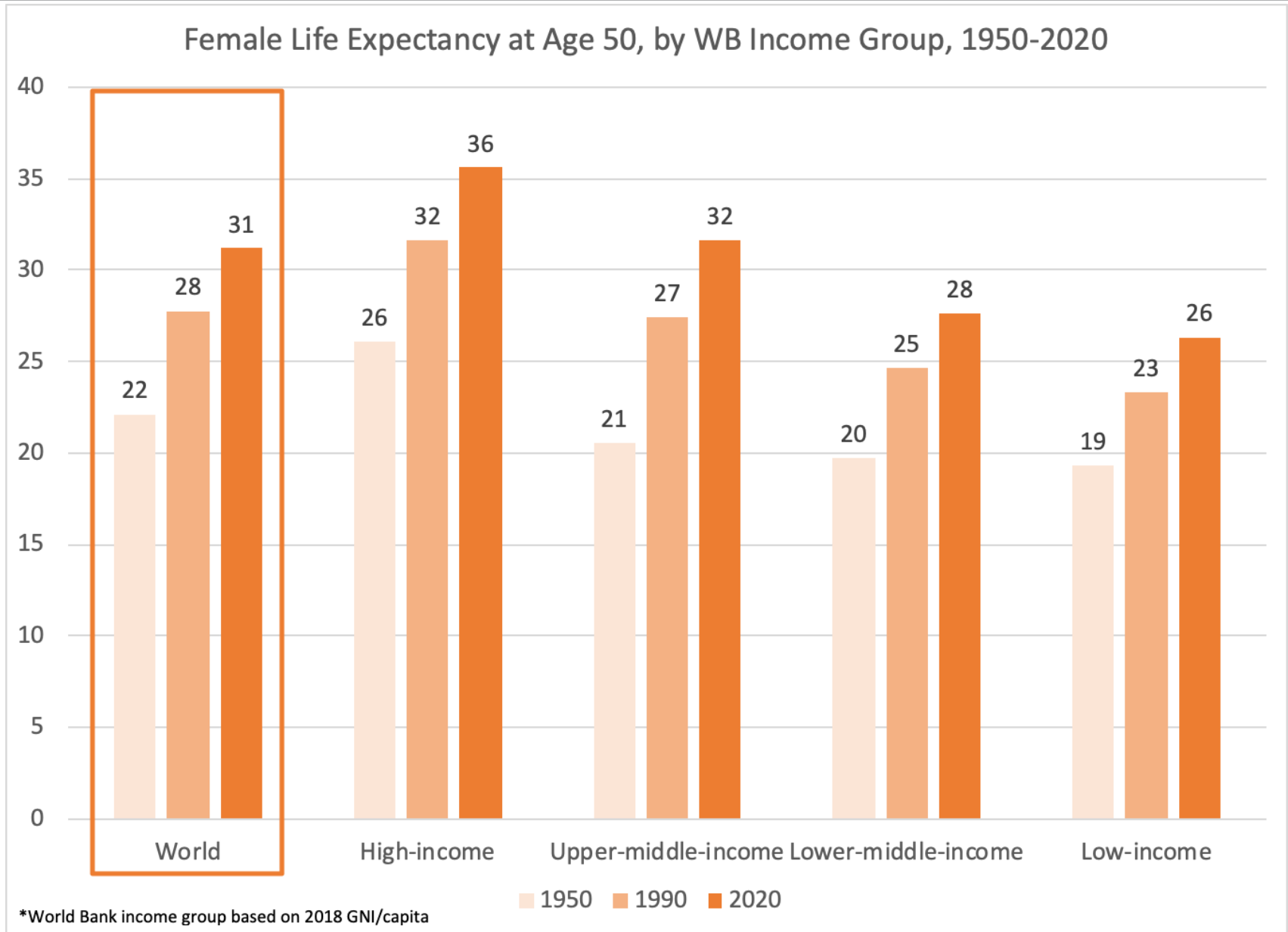
Longer Lives, Later Retirement? Evidence from Around the World

Courtney Coile

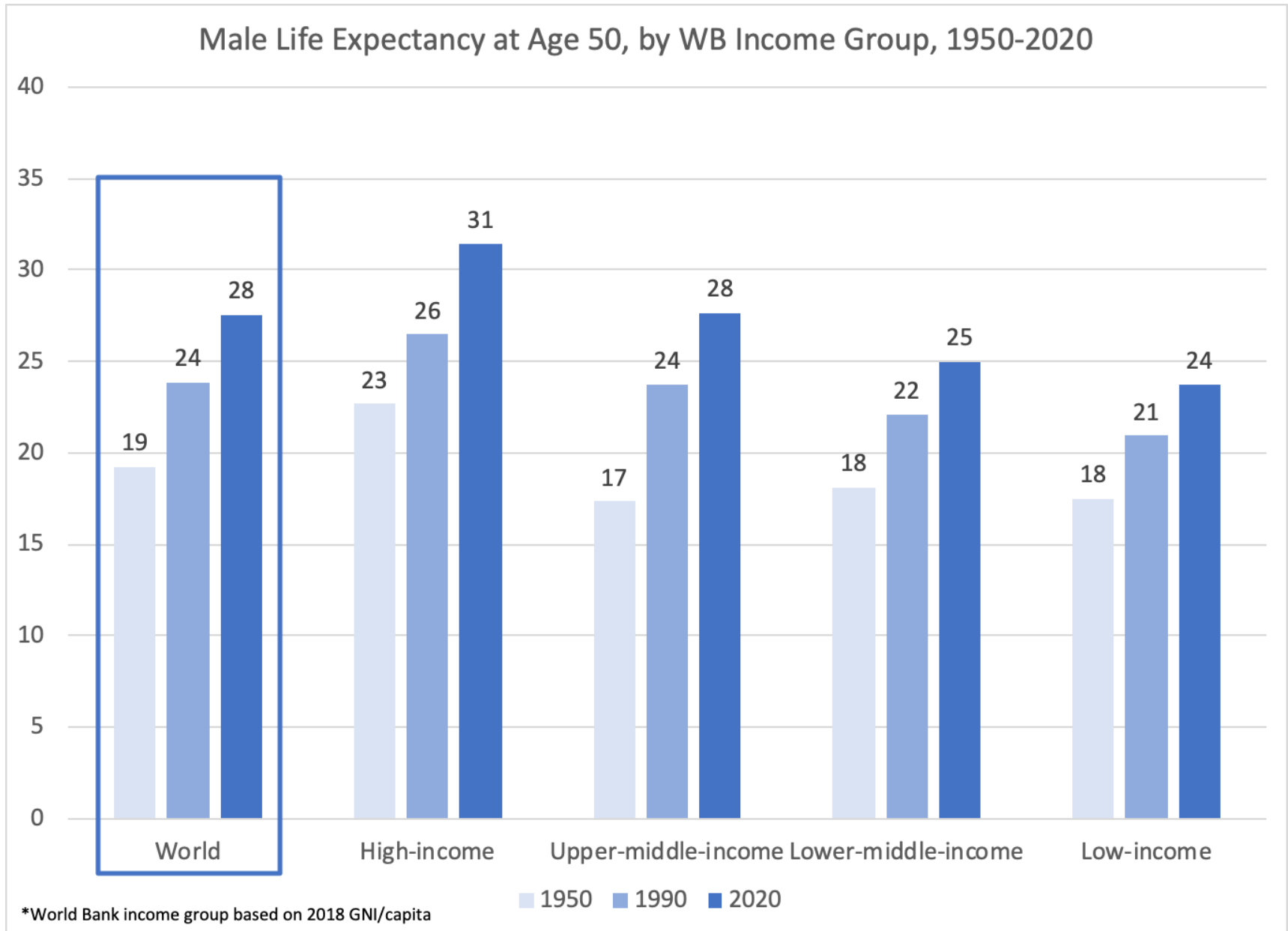
Wellesley College and NBER

National Transfer Accounts Project 13th Global Meeting
August 3, 2020

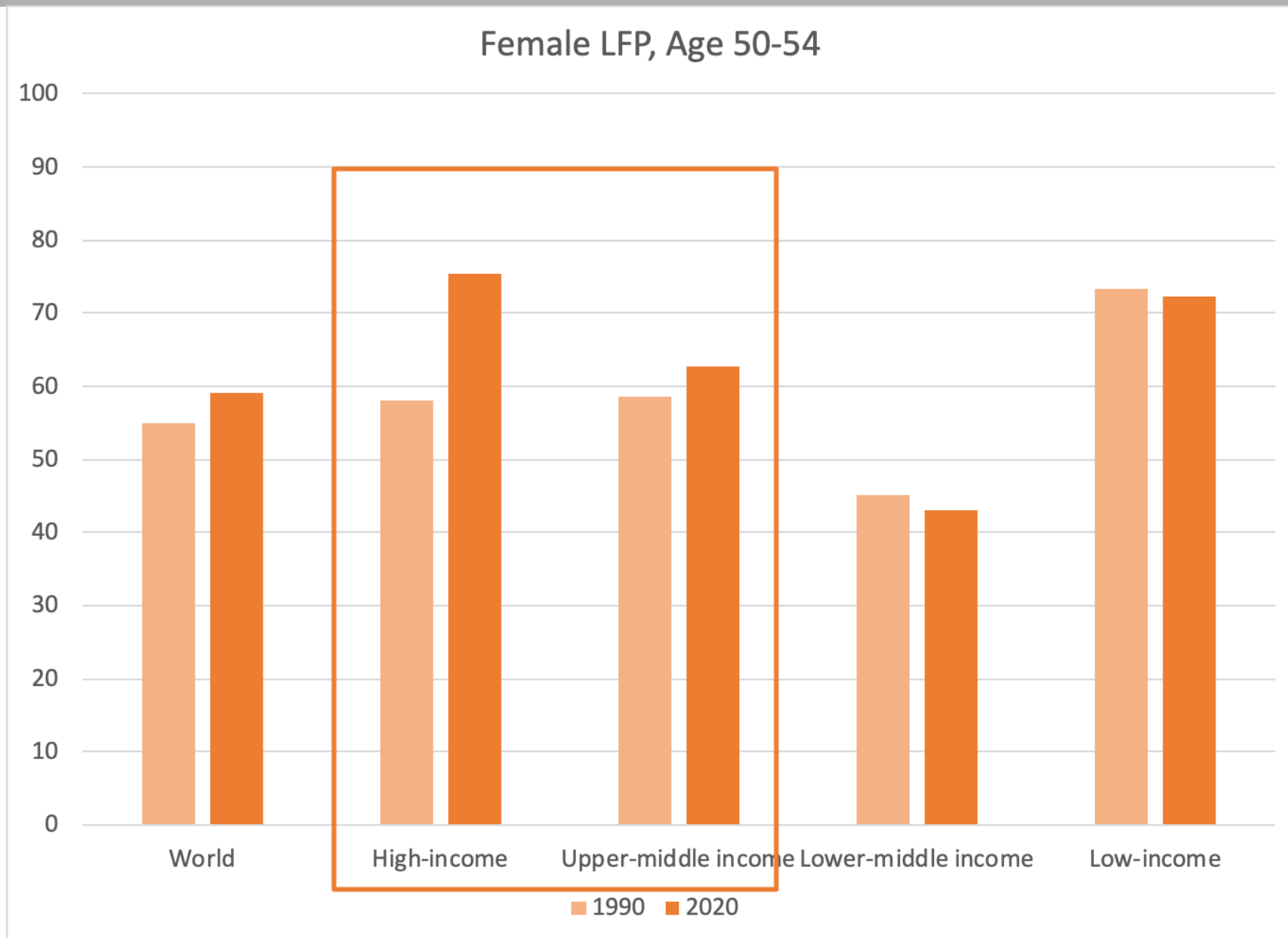
Rising LE at Age 50 in All Country Income Groups



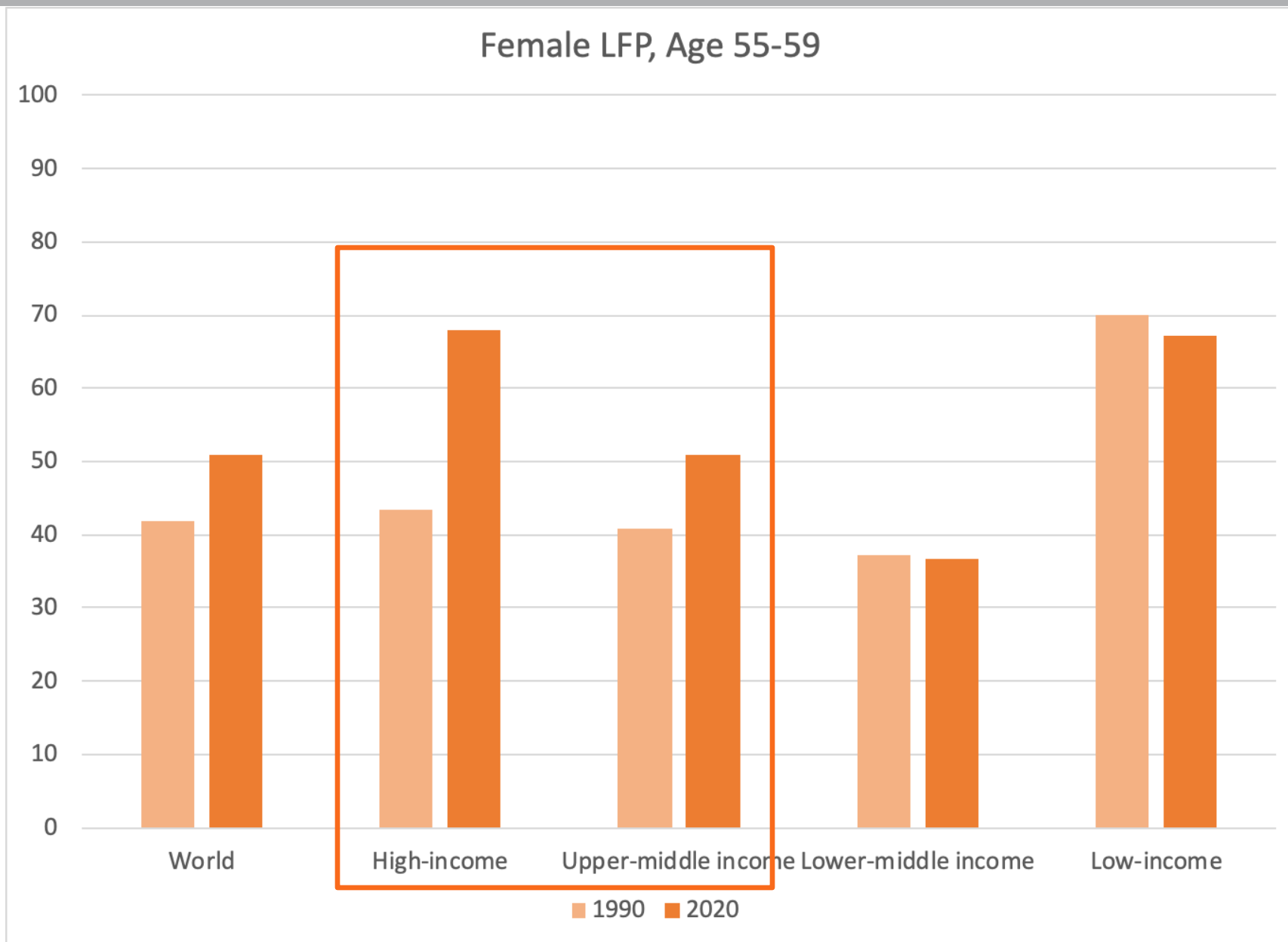
Rising LE at Age 50 in All Country Income Groups



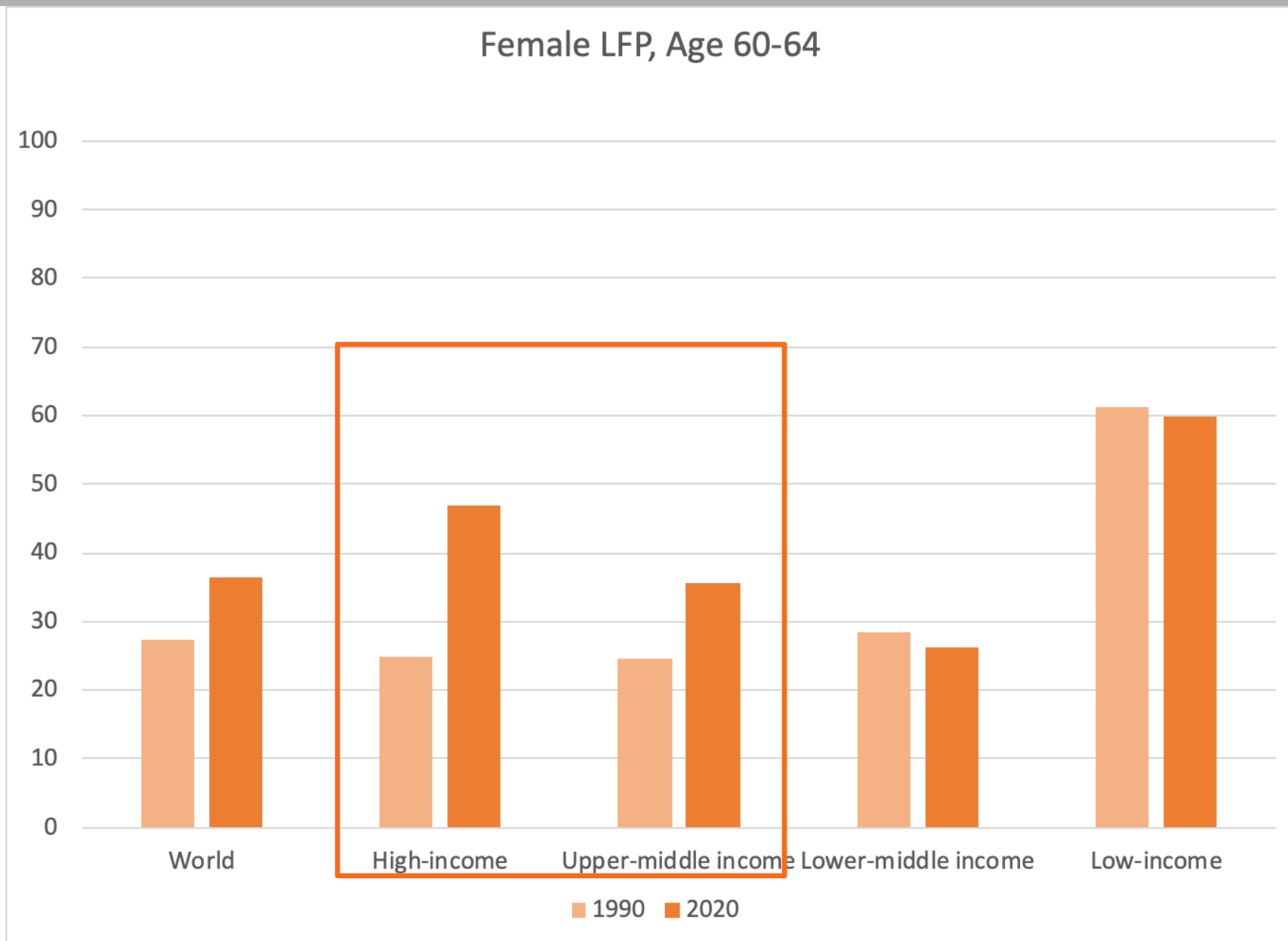
Rising LFP For Women in Higher Country Income Groups



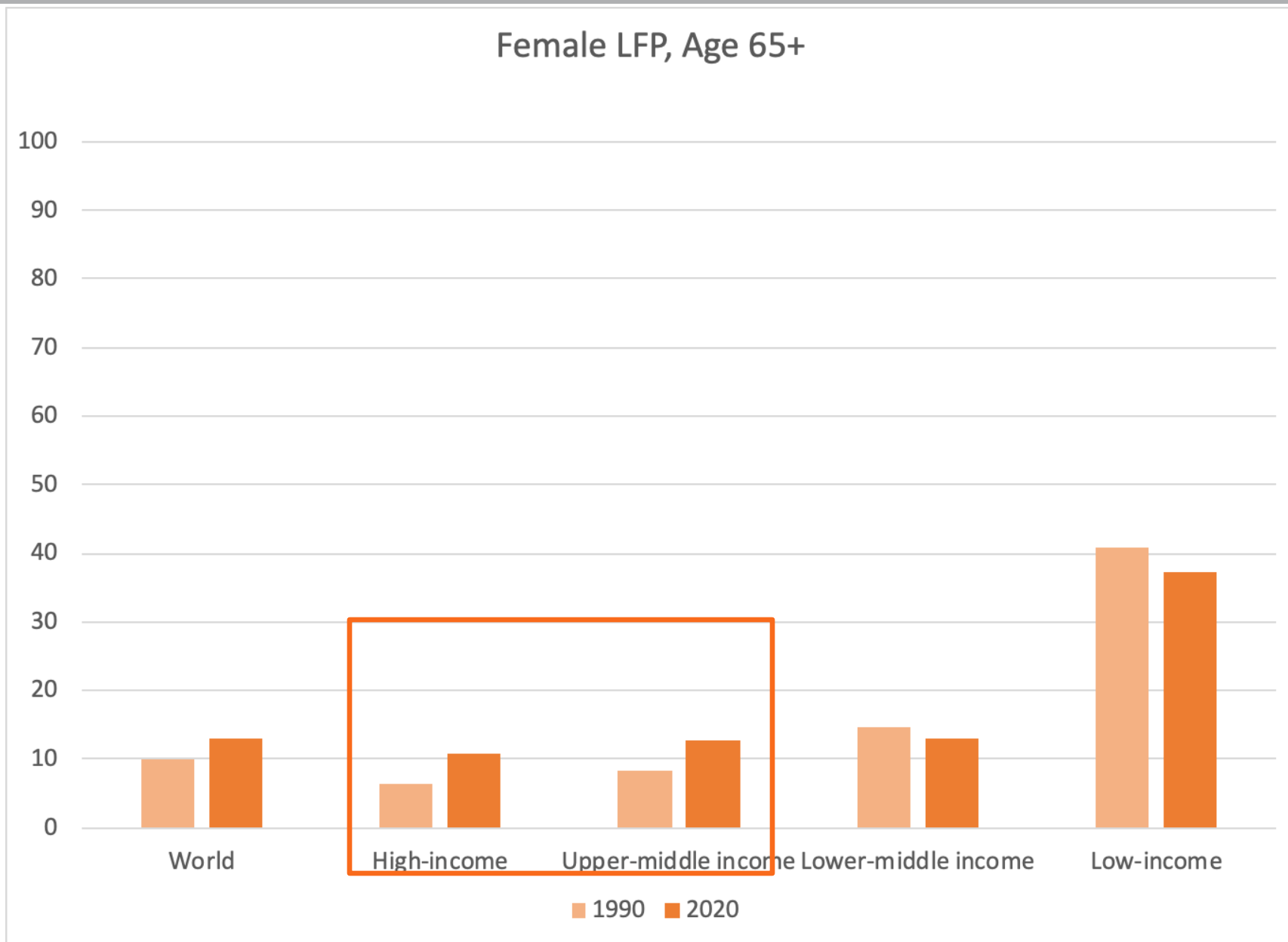
Rising LFP For Women in Higher Country Income Groups



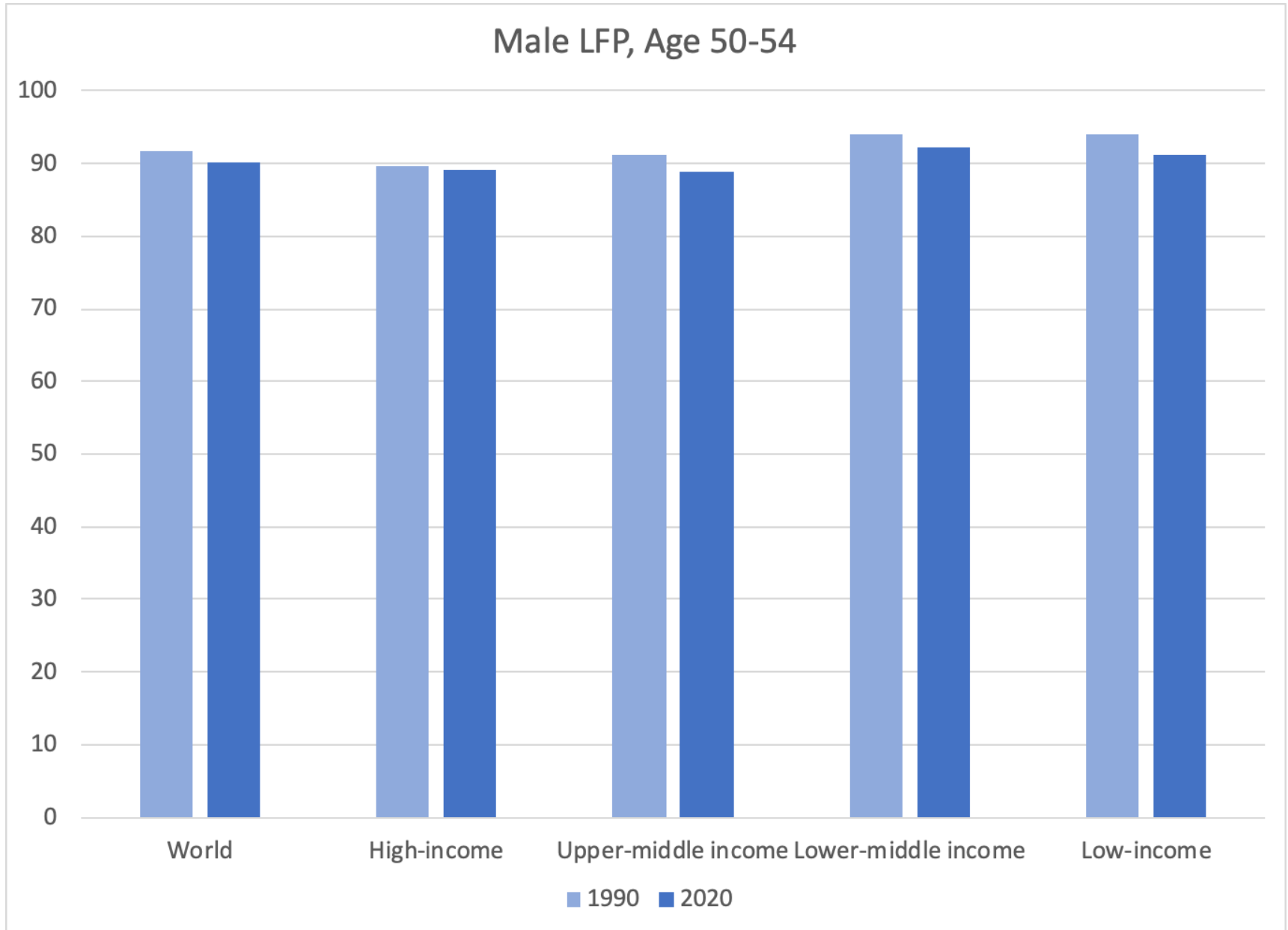
Rising LFP For Women in Higher Country Income Groups



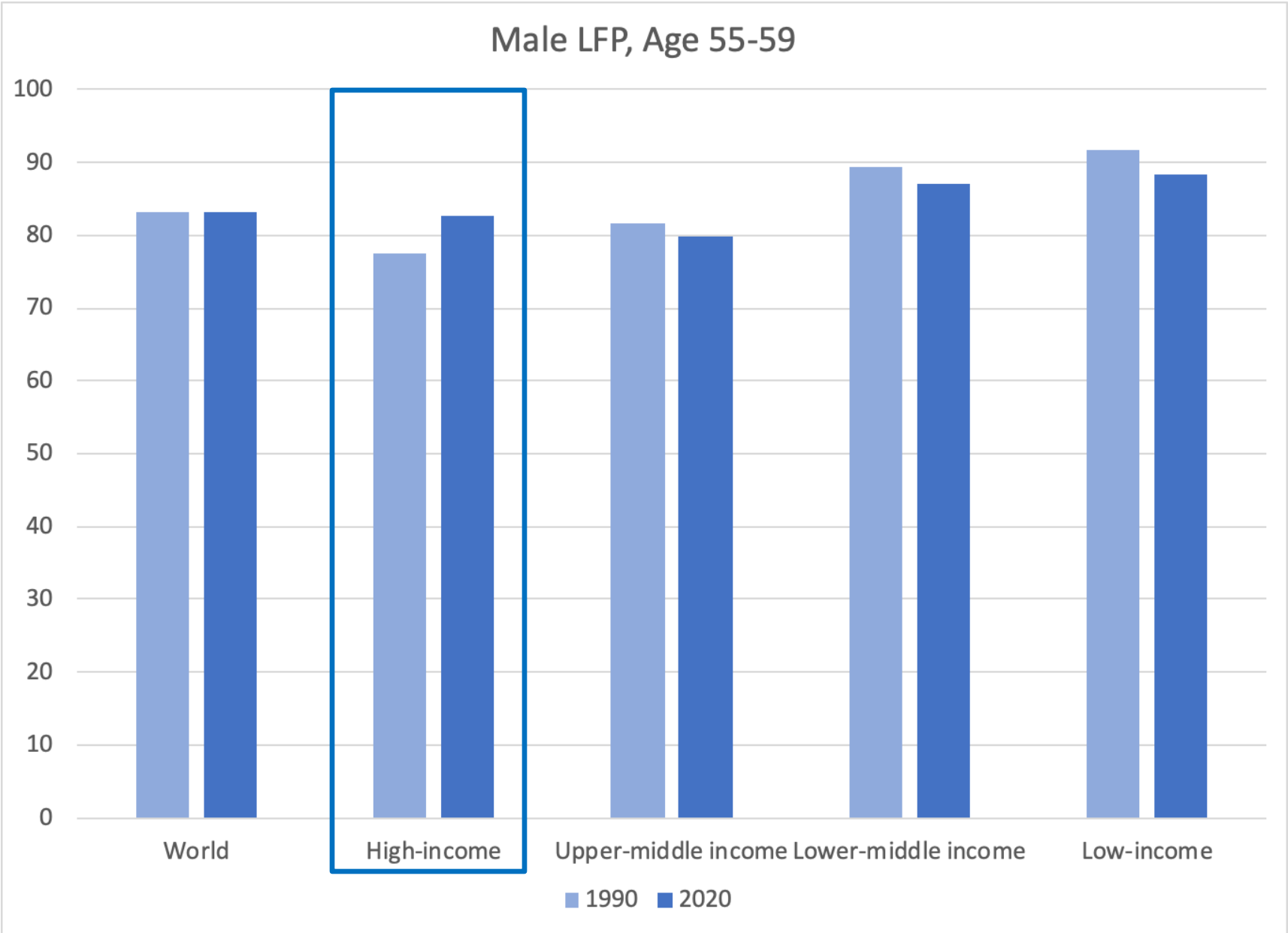
Rising LFP For Women in Higher Country Income Groups



No Trend Towards Rising LFP for Men Age 50-54

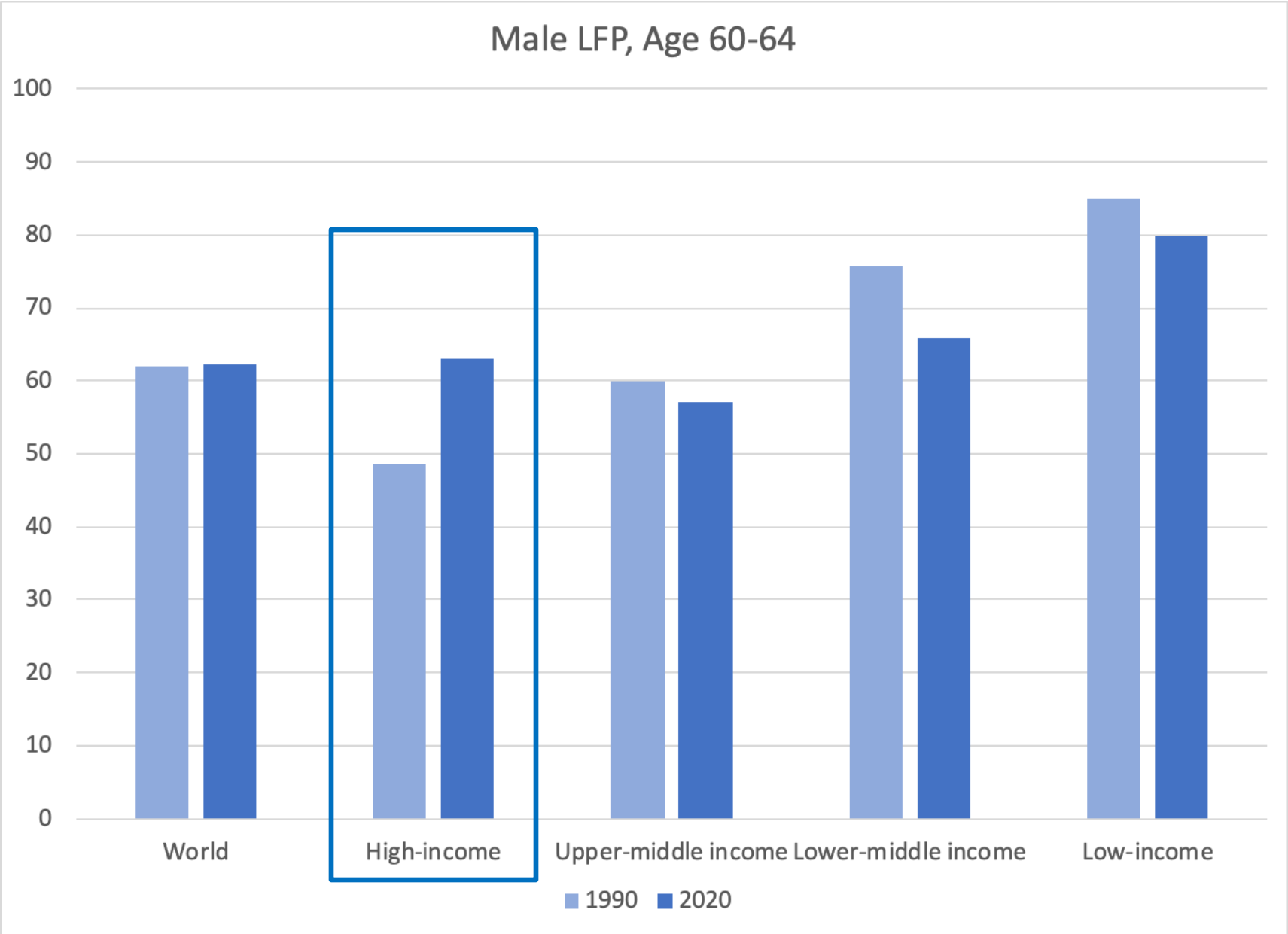


Rising LFP For Men in High-Income Countries Only



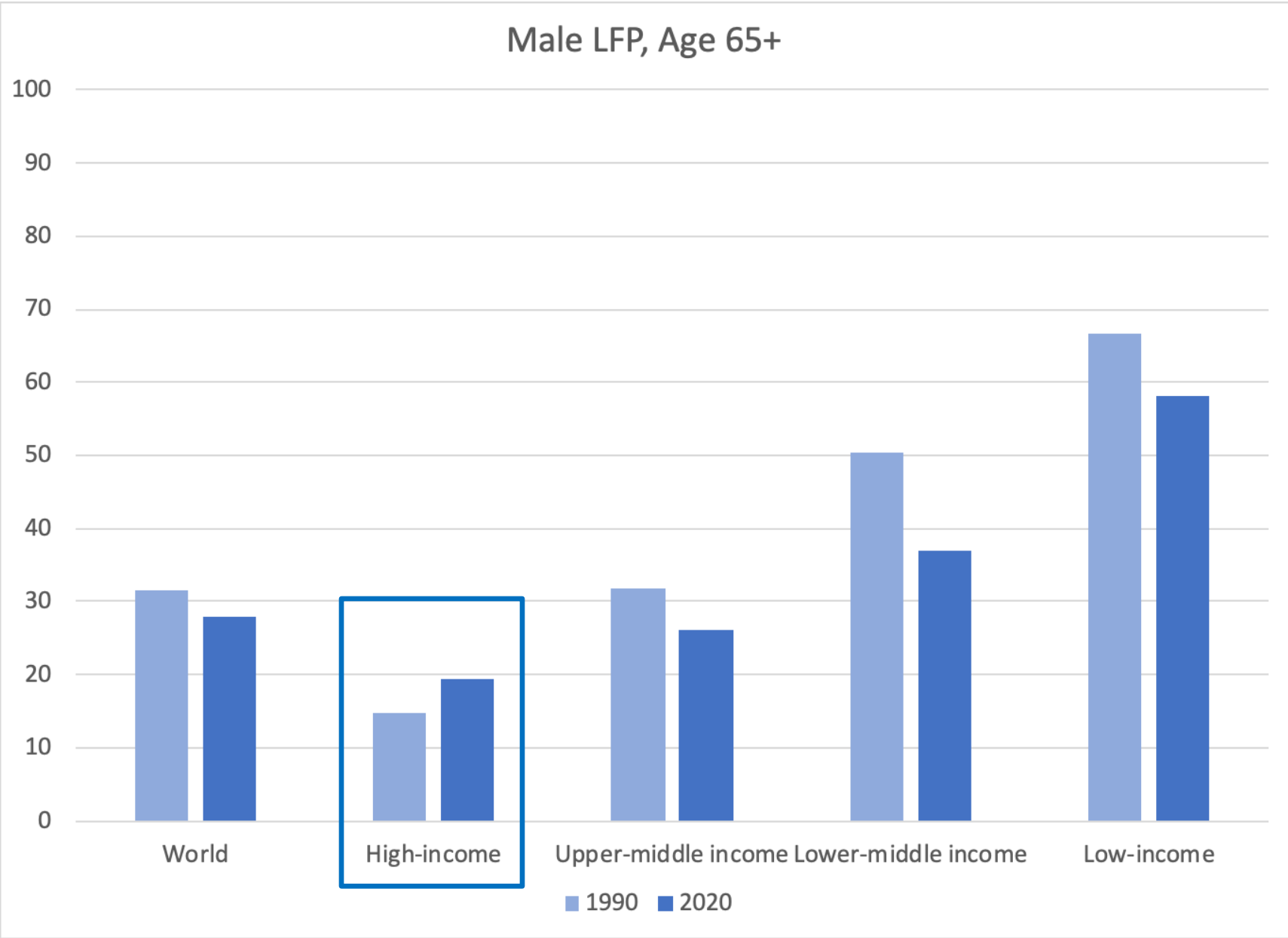
Source: <https://ilostat.ilo.org/data/>

Rising LFP For Men in High-Income Countries Only



Source: <https://ilostat.ilo.org/data/>

Rising LFP For Men in High-Income Countries Only



Source: <https://ilostat.ilo.org/data/>

The Facts

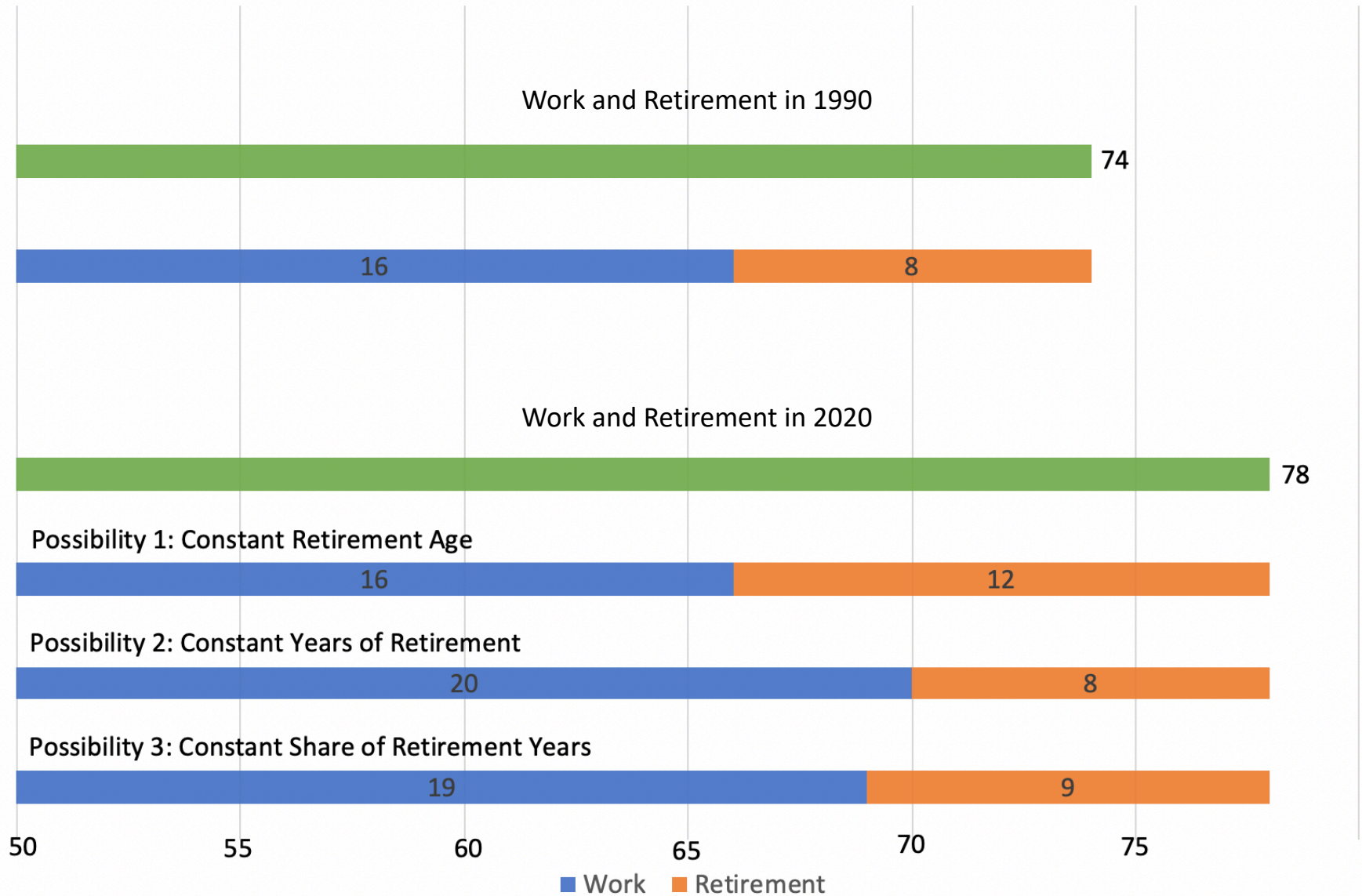
- **Living longer all around the world**
 - LE at age 50 has risen by 9 years over past 70 years, 3-4 years over past 30 years
 - Increases in countries of all income levels, larger gains in higher-income countries
- **Working longer only in richer countries**
 - Women in high-income countries: +17-25% points at ages 50-64
 - Women in upper-middle-income: + 10% points at 55-64
 - Men in high-income countries: +15% points at 60-64

The Questions

- Does economic theory predict people will work longer as life expectancy increases?
- Why are people working longer in richer countries (and might trend spread to other countries)?
- What are the implications of living longer while not working longer?

How LE Increases Affect Retirement: Example

How Does Added LE Affect Years of Work and Retirement?



How LE Increases Affect Retirement: Theory

- **Horizon effect: more resources needed to finance longer lifespan**
 - **later retirement**, at least in some cases (Chang, 1991)
- **Uncertainty effect: decrease in variability of age at death makes it optimal to save, plan for retirement**
 - **earlier retirement** (Kalemli-Ozcan and Weil, 2010)
- **Income effect: compression of morbidity**
 - **later retirement and less than proportional increase in working life** (Bloom, Canning, and Moore, 2007, 2014)
- **Return to schooling: rising LE affects both education (Ben-Porath, 1967) and retirement**
 - **earlier retirement** (Hazan, 2009; Hansen and Lonstrup, 2012)

Earlier Retirement in Richer Countries in 20th Century

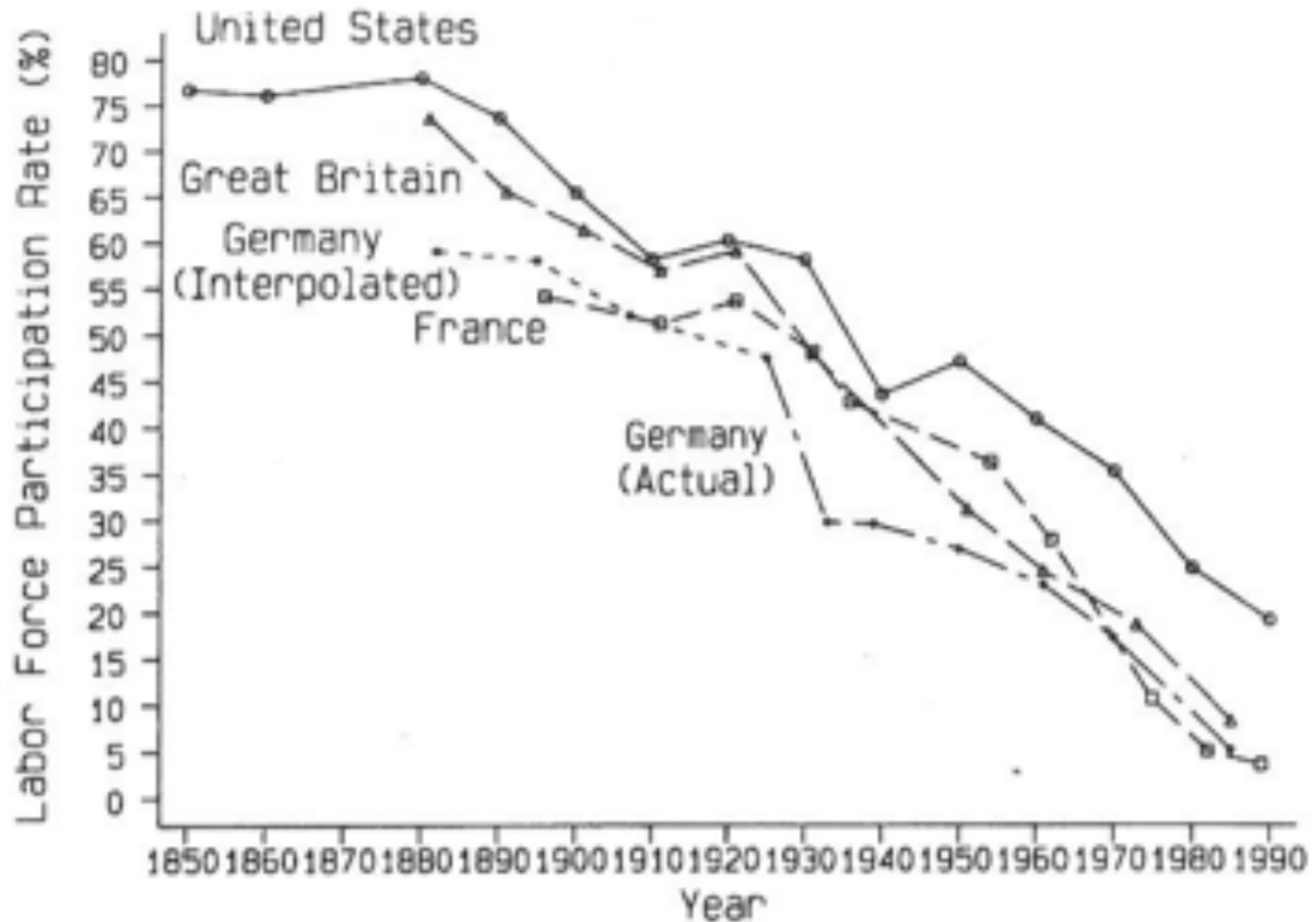
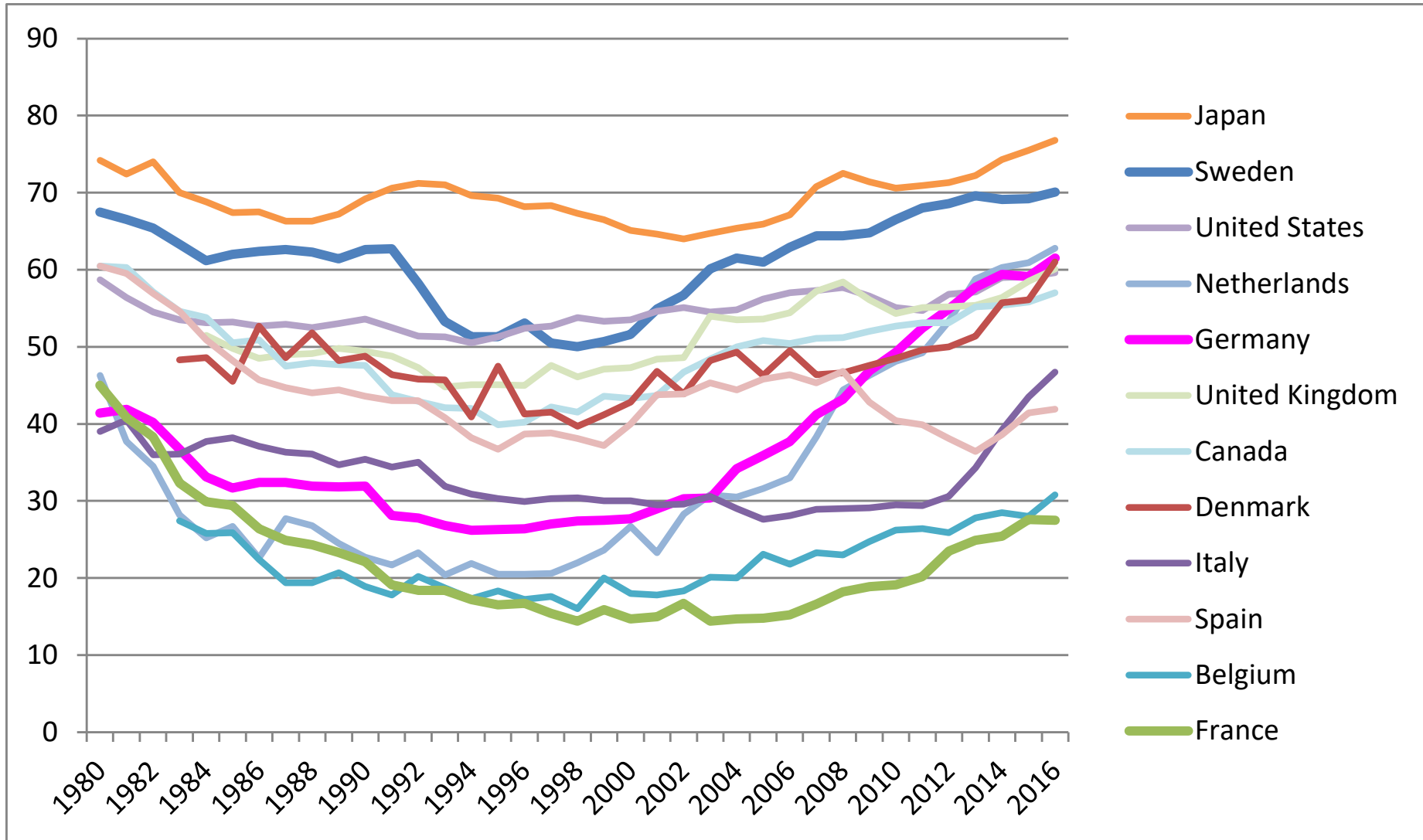


Fig. 2.2 Labor force participation rates of men aged sixty-five and over, 1850–1990, United States, Britain, France, and Germany

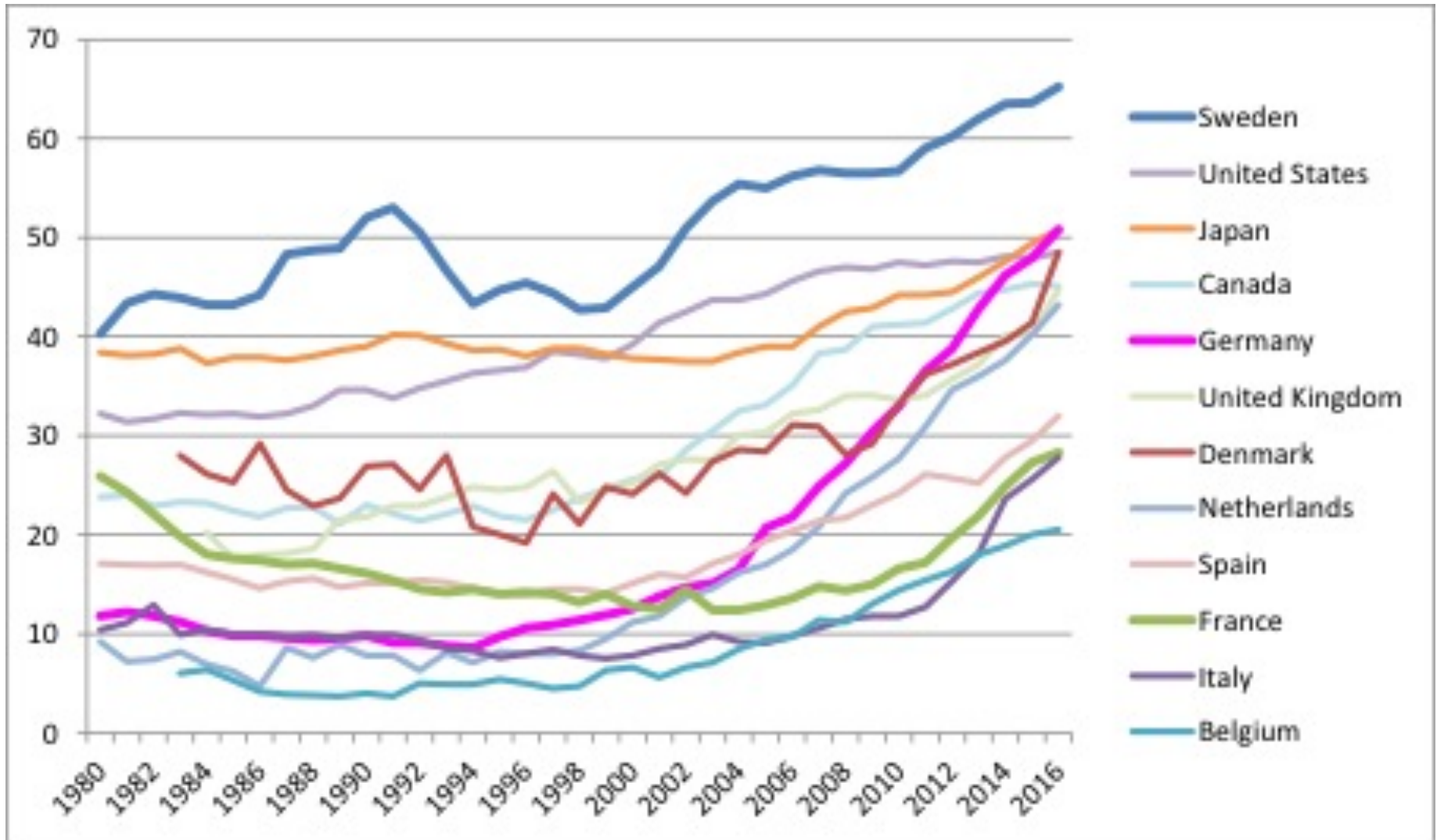
Trend of Later Retirement Began in Mid-1990s (Men)

Employment Rates of Men Ages 60-64, ISS Countries, 1980-2016



Trend of Later Retirement Began in Mid-1990s (Women)

Employment Rates of Women Ages 60-64, ISS Countries, 1980-2016



What Might Explain Trends in LFP in Richer Countries?

- **Explanations for earlier retirement (1900-1990s)**
 - Rising income
 - Changes in production technology (Graebner, 1980; Moen, 1988)
 - Growth of public pensions (Costa, 1998; Fetter and Lockwood, 2018; Gelber et al., 2017)
- **Explanations for later retirement (1990s-present)**
 - Rising education
 - Improving health
 - Cohort effects for women (Goldin and Katz, 2018); also affect husbands (Schirle, 2008)
 - Pension reforms
- **Consider some evidence from NBER International Social Security (ISS) project**

Trends in Health & Education (No U-Shape)

Figure 4: Mortality at Age 60, Men and Women, 1980-2014

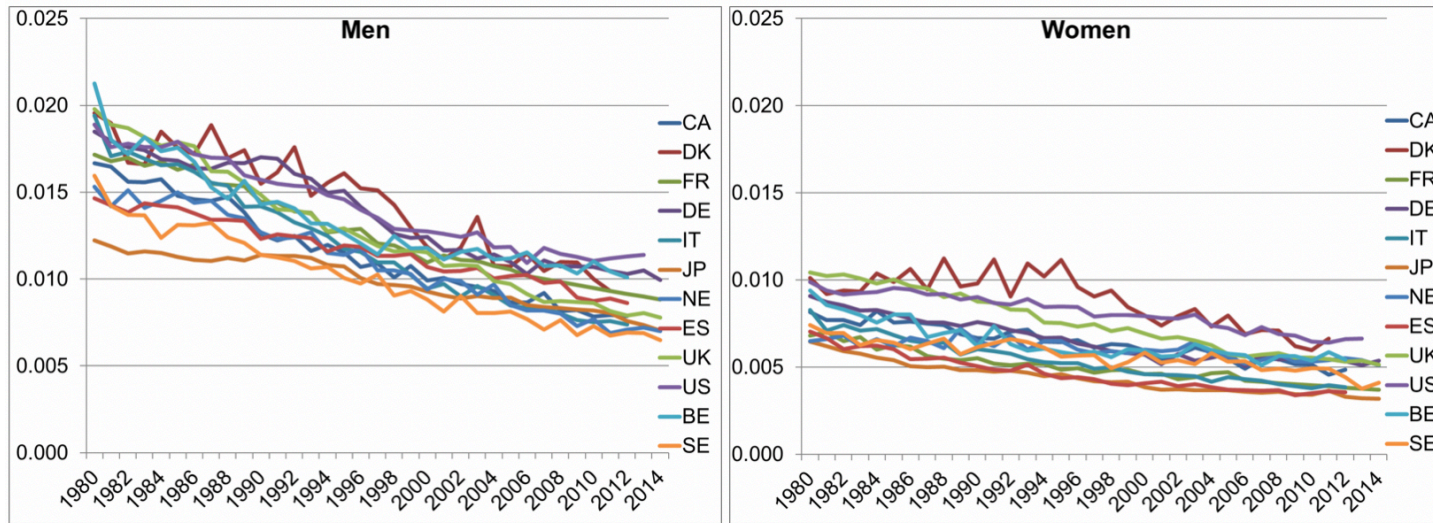
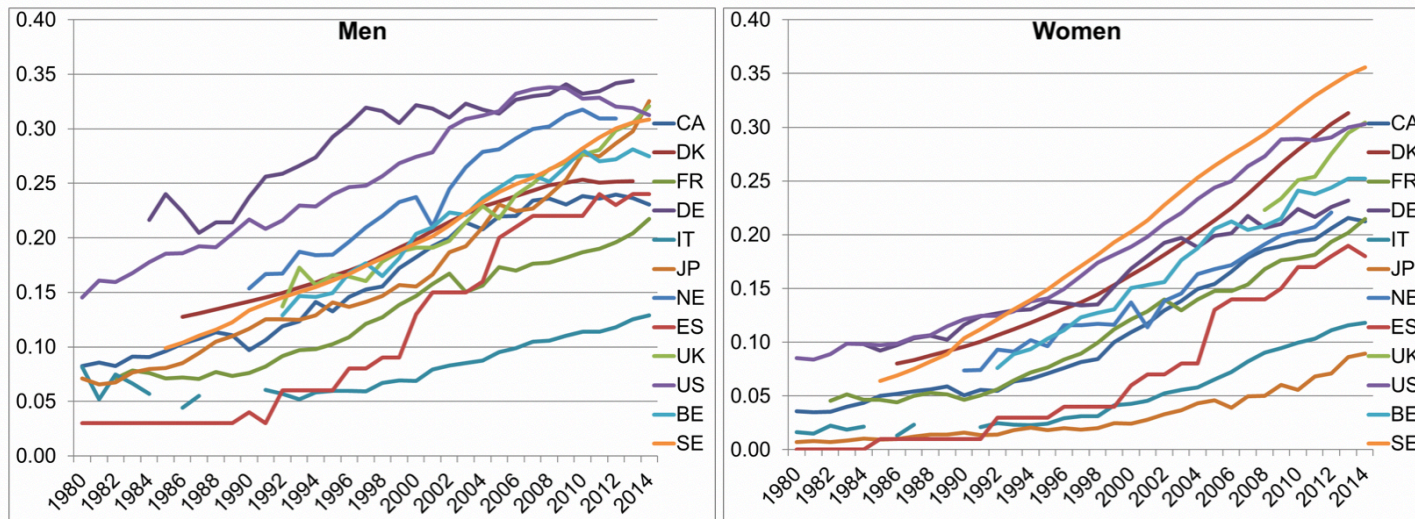


Figure 6: Share of Men and Women 55 to 64 with a College Education, 1980-2014



Pension Reforms: Frequent, Strengthen Work Incentives

Table 1: Pension Reform Implementation, by Type and Country

Type of Reform	Belgium	Canada	Denmark	France	Germany	Italy	Japan	Netherlands	Spain	Sweden	UK	US	Total # Countries
Old Age Pension													
Lower early eligibility age (EEA)		1987		2003					2002				3
Raise EEA-women	1991				2012		1987-1999, 2006-2018				2010-		4
Raise EEA-all	2013-18		2015	2010-2015	2006-2012	1996-2011	2001-2013	2013-	2011		2018-		9
Lower statutory elig age (SEA)			2005-06										1
Raise SEA-women	1997-2009					2012	1987-1999, 2018-2030				2010-		4
Raise SEA-all			2015	2010-2015	2012-2029	1994-2000, 2003-2012	2013-2025	2013-	2013		2018-	2003-2008	9
Lower min yrs for early claiming				1983									1
Raise min yrs for early claiming	1997-2005, 2013-2019			1993-2003, 2014		2011-							3
Introduce partial retirement					1992, 1996								1
Raise benefit generosity		1980s, 2006-07, 2016			1984, 2014, 2018						2002, 2007, 2011		3
Lower benefit generosity	1996, 1997-2009, 2012	1997-99		1993	1992, 2001, 2004	1993	1986-2006	2000s	1997, 2011, 2013		1980, 1986, 1995		9
Weaken actuarial adjustment	1991, 2015			2003	1992				1997, 2007				4
Strengthen actuarial adjustment	2007	2011-16	1999	2003, 2005	1996-2010		2005	1990s	2002, 2007			1990-2008	9
Strengthen earnings test							2002, 2005						1
Weaken earnings test				2009	1992		1989, 1995, 2005		2002		1989	1990, 2000	6
Notional DC						1995-2032				1998			2
Other Pathways													
Strengthen non-SS early ret	1984		1987, 1992, 1994, 1999	1995	2014								4
Weaken non-SS early ret	1986-1987, 2008, 2012, 2015		1996, 1999, 2006, 2012	1983, 1994, 2003, 2011	1996	1996-2008, 2012-		2006					6
Strengthen DI			1984		2012, 2014, 2018								2
Weaken DI			2003		1984, 2000			1985, 1997, 2004-05	1991, 1997, 2003, 2008	1995, 2008-2010, 2011, 2016			6
Strengthen UI	1985, 1989, 1996			1984-2009	1984-87, 2008				1984, 1989, 2002				4
Weaken UI	2004, 2012, 2015			2012	1997, 2002, 2005			2004, 2006	2012				5

Source: Borsch-Supan and Coile, 2018

Rising Pension Eligibility Ages

Figure 4: Social Security Early Eligibility Age, by Sex, 1980-2016

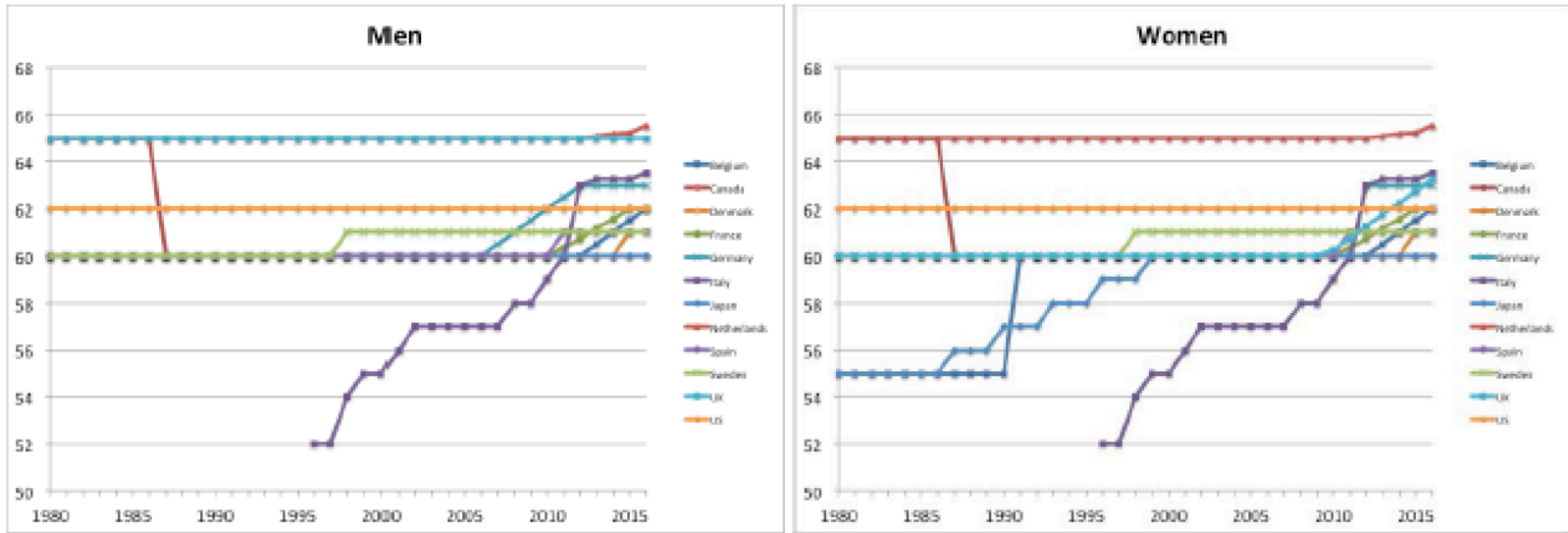
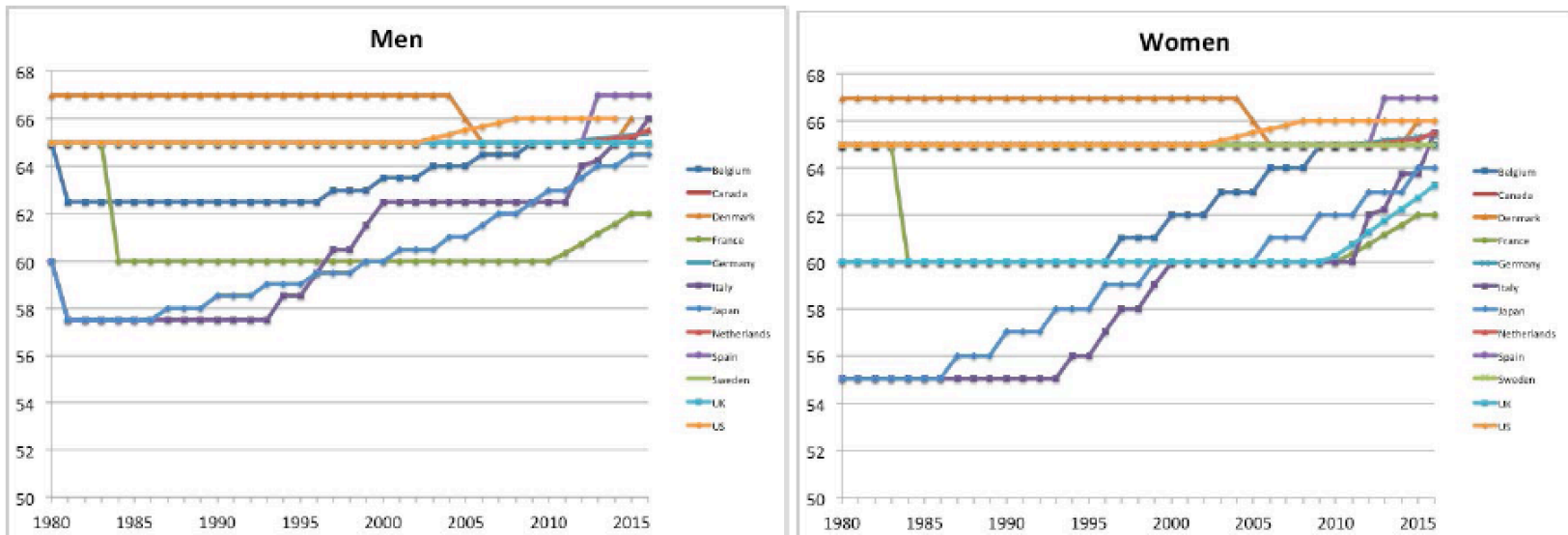
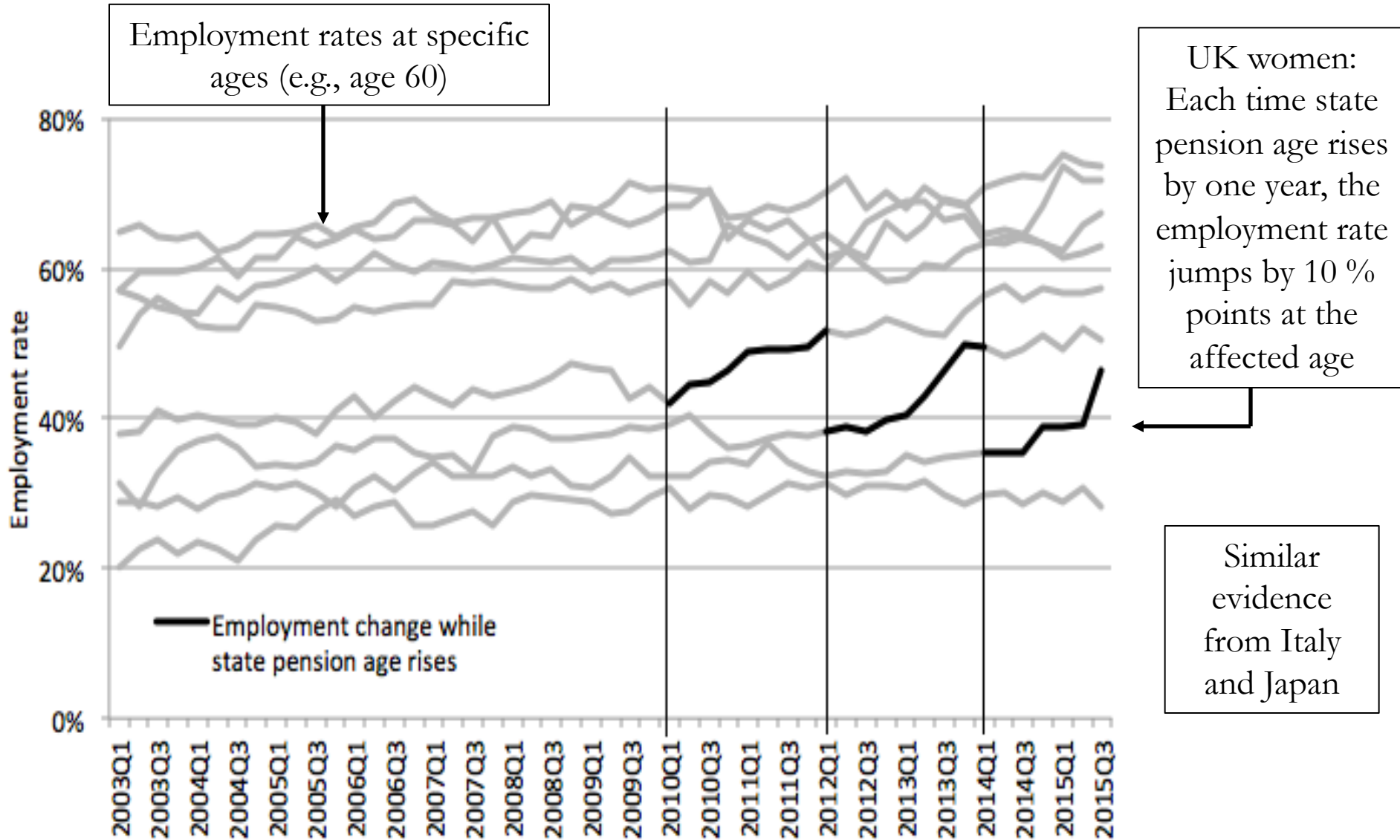


Figure 5: Social Security Statutory Eligibility Age, by Sex, 1980-2016

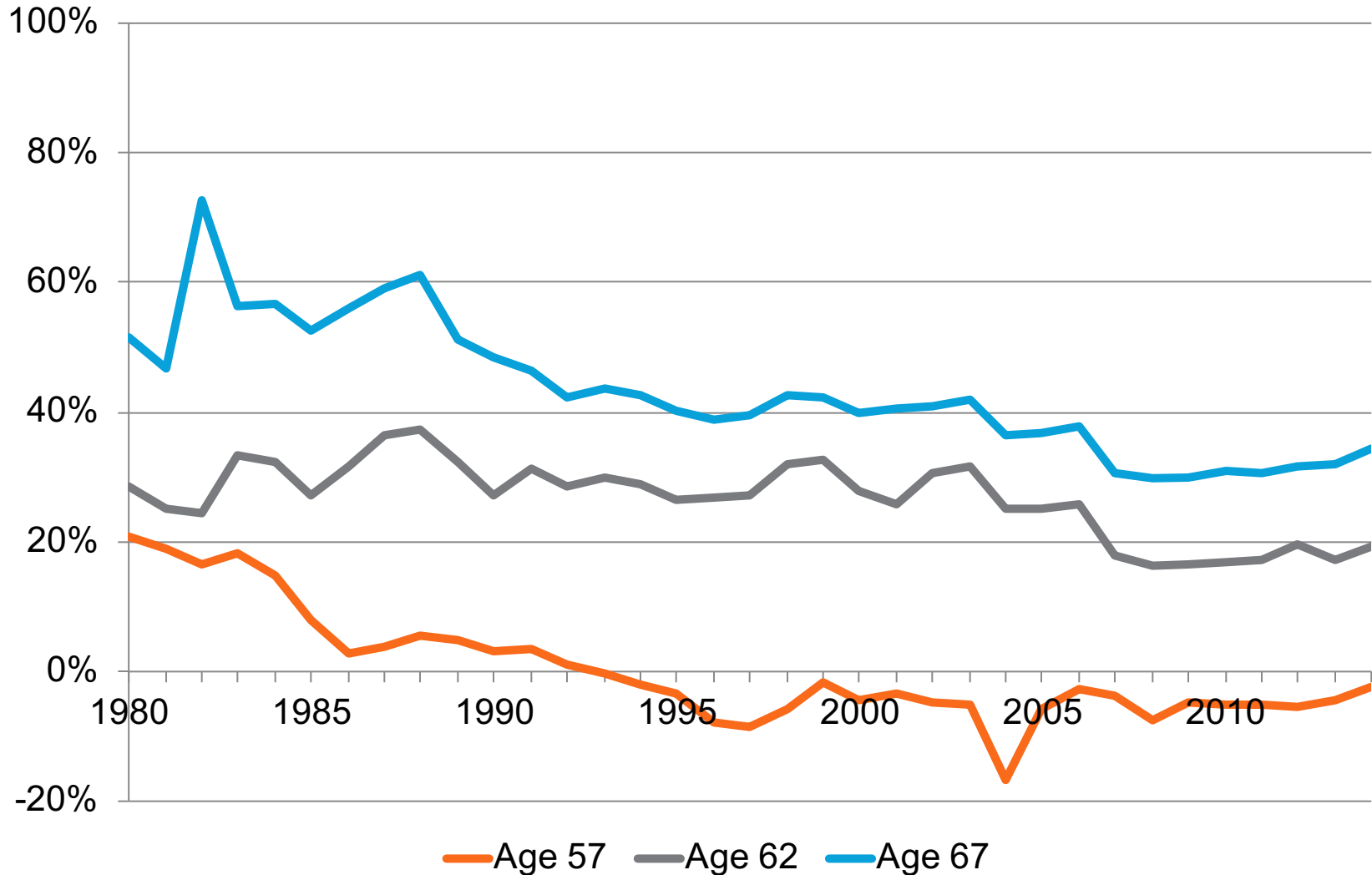


Higher EEA Leads to Later Retirement (UK Case Study)



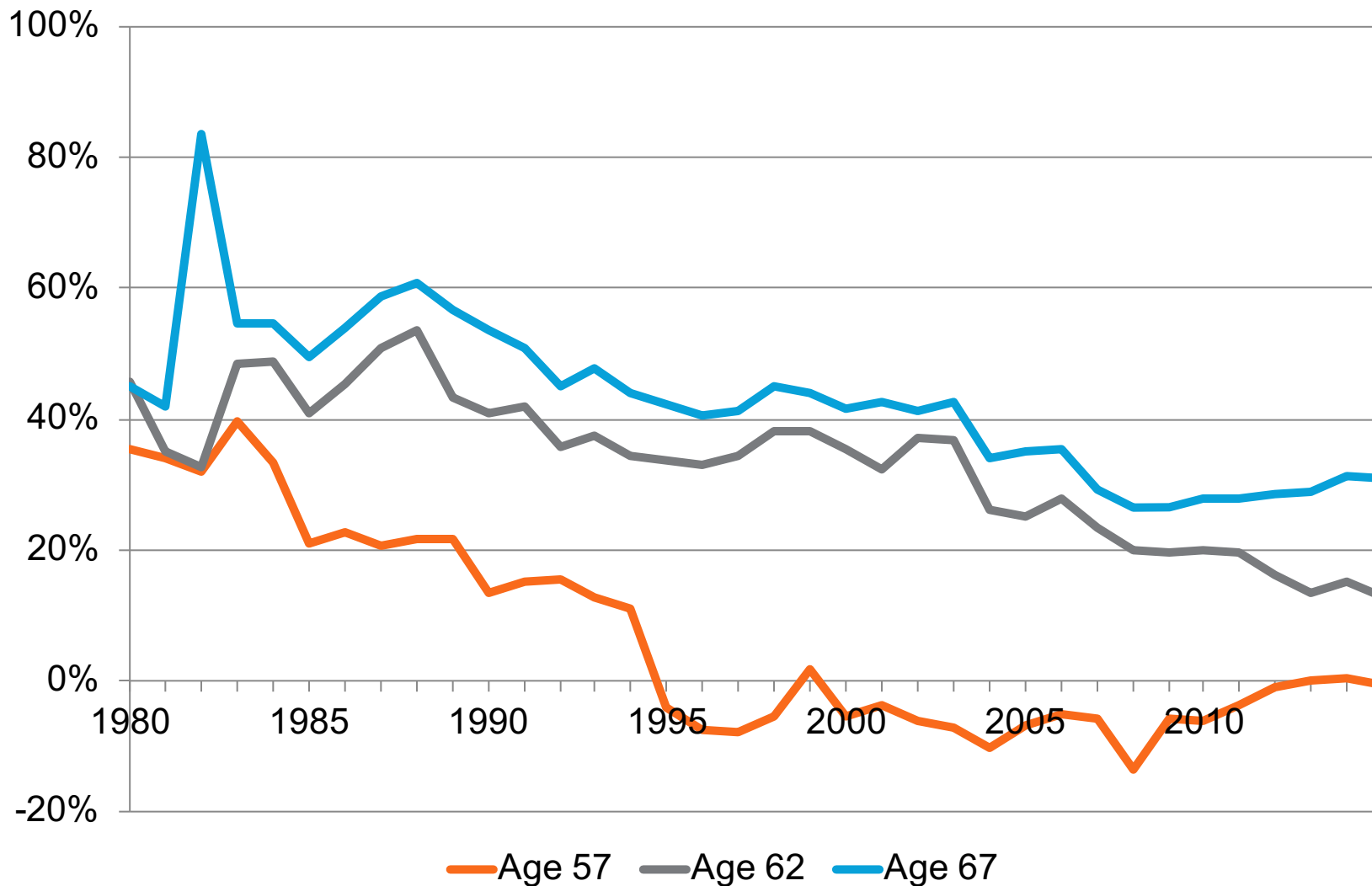
Average Implicit Tax is Falling Over Time (Men)

ITAX by Year for Men, Unweighted Country Average, 1980-2014



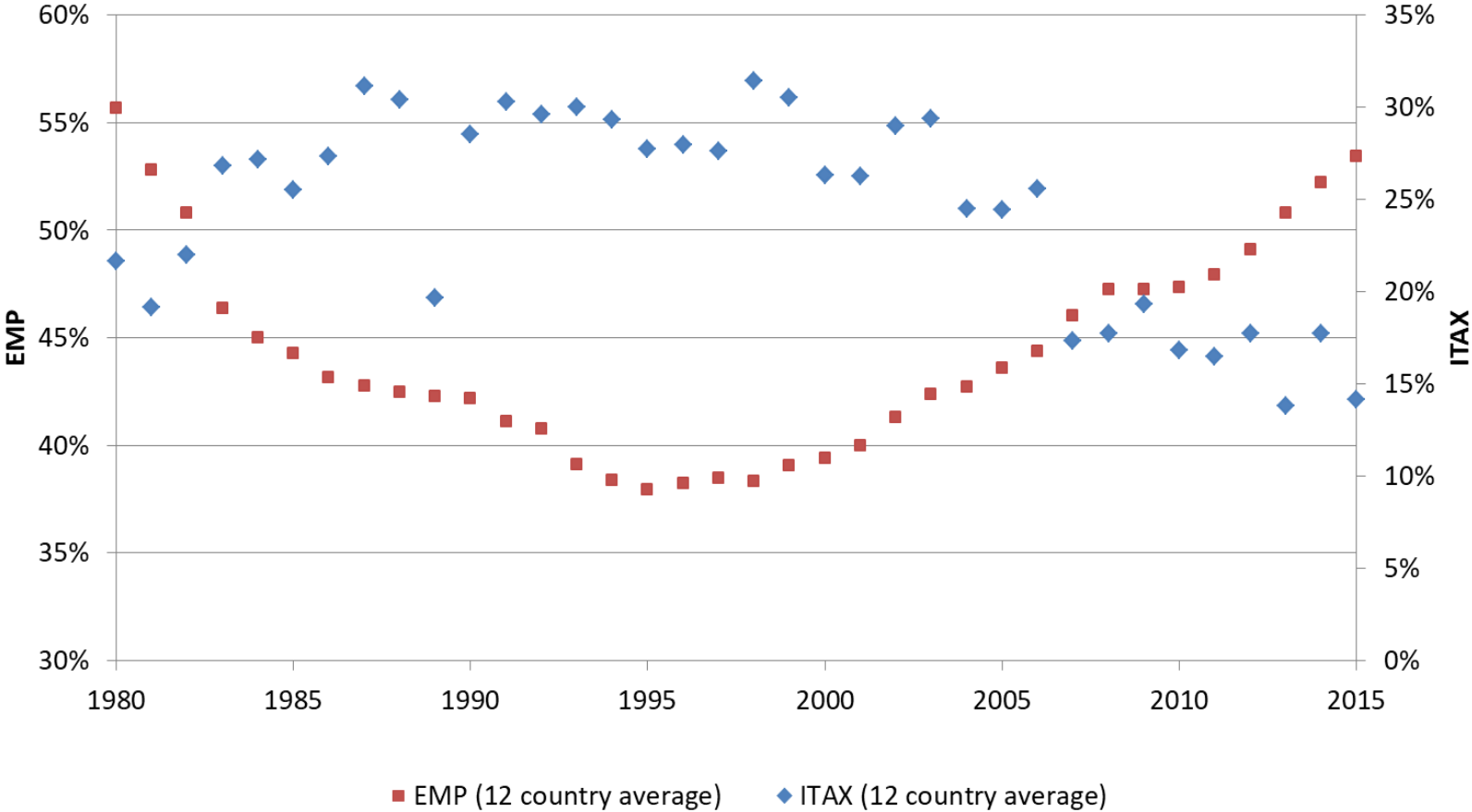
Average Implicit Tax is Falling Over Time (Women)

ITAX by Year for Women, Unweighted Country Average, 1980-2015



Trends in Implicit Tax and Employment (U-Shape)

Average Employment Rate and ITAX, Men Ages 60-64, 1980-2015

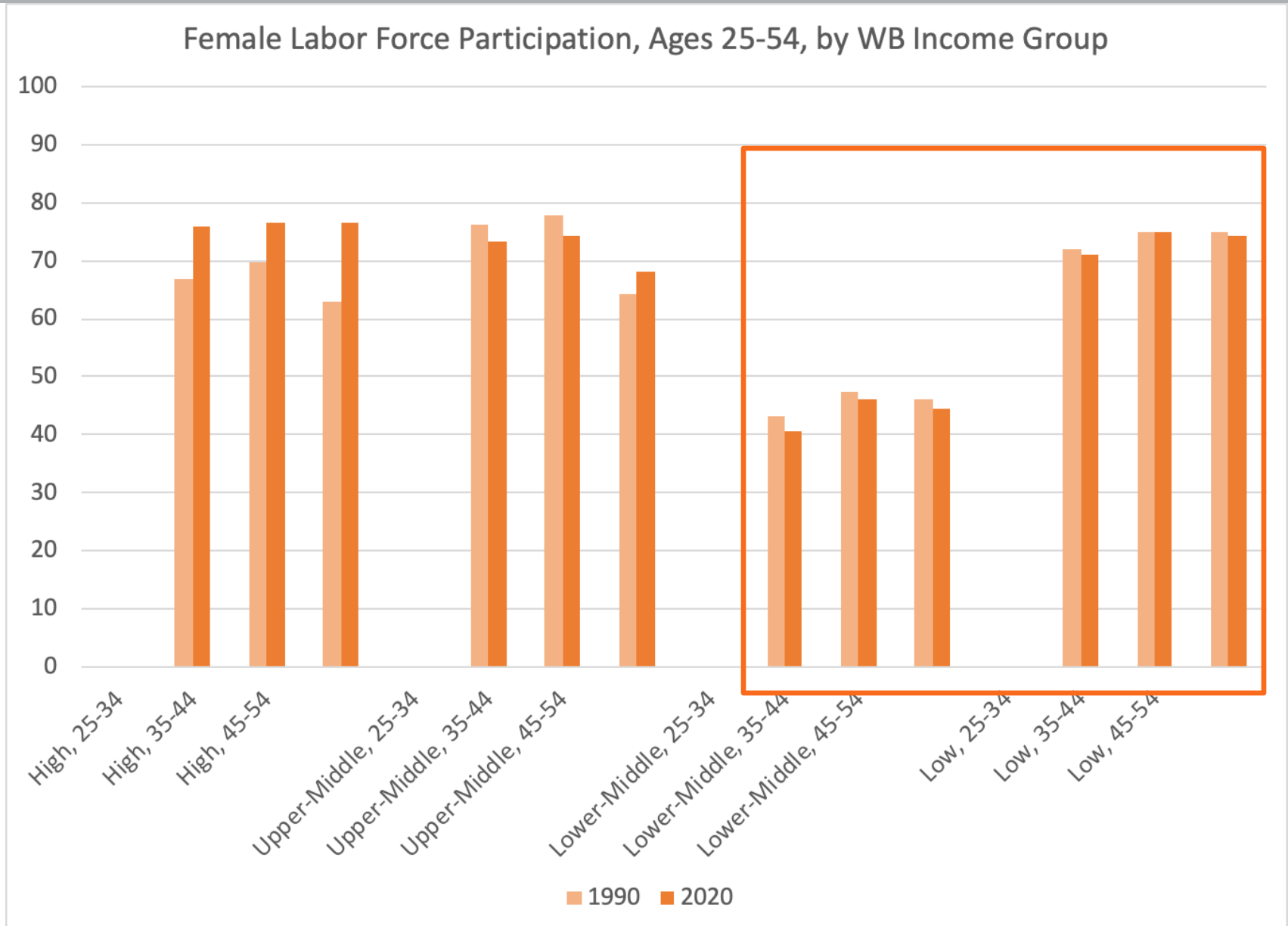


Source: Borsch-Supan and Coile, 2018

Will Working Longer Trend Spread?

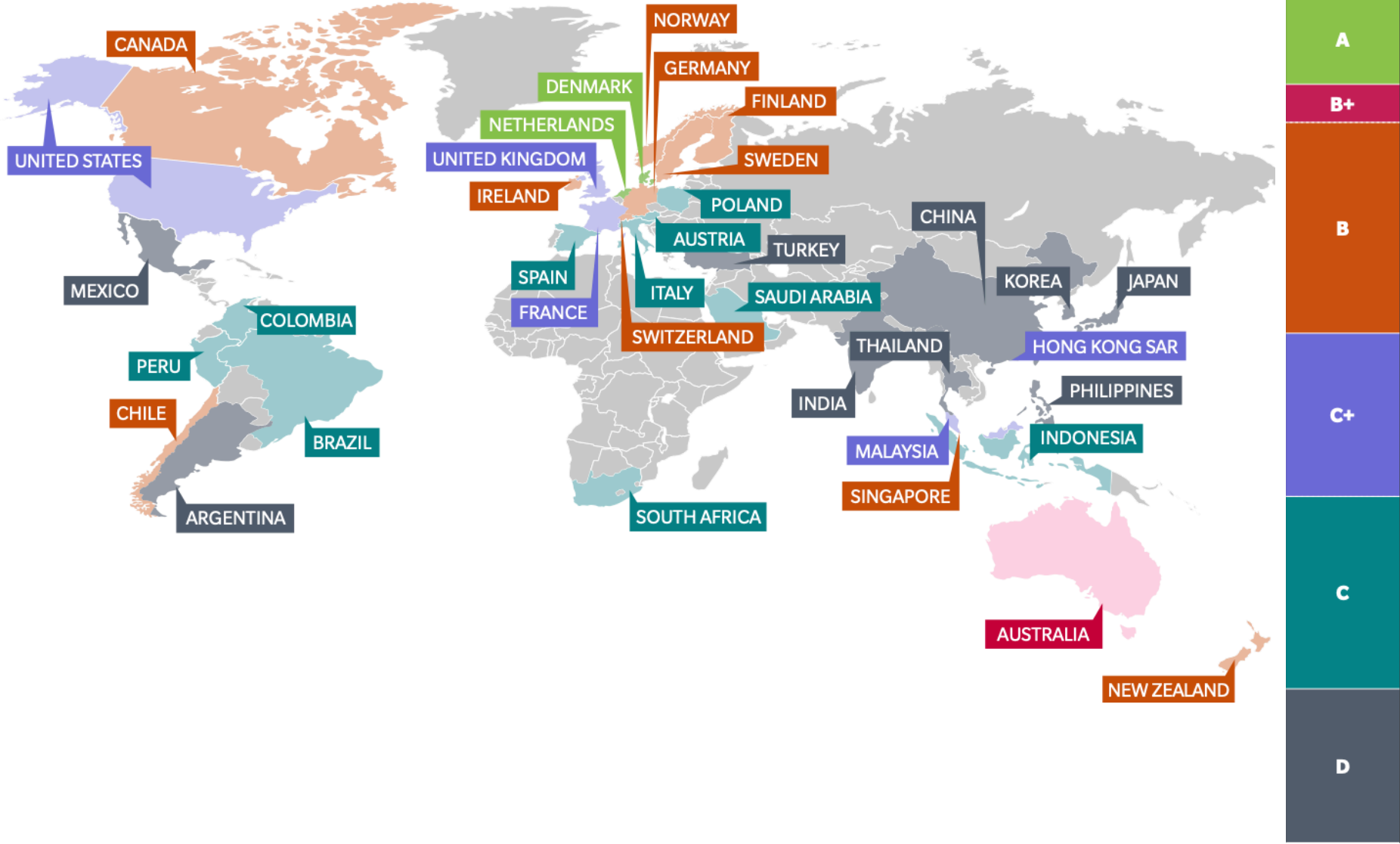
- Big contributors to recent increase in LFP at older ages in high- & upper-middle-income countries:
 - cohort changes in women's LFP
 - pension reforms
- Might we expect these same factors to affect LFP in other countries?

No Surge in Female LFP in Poorer Countries



While Pension Reforms May Be Needed in Many Countries...

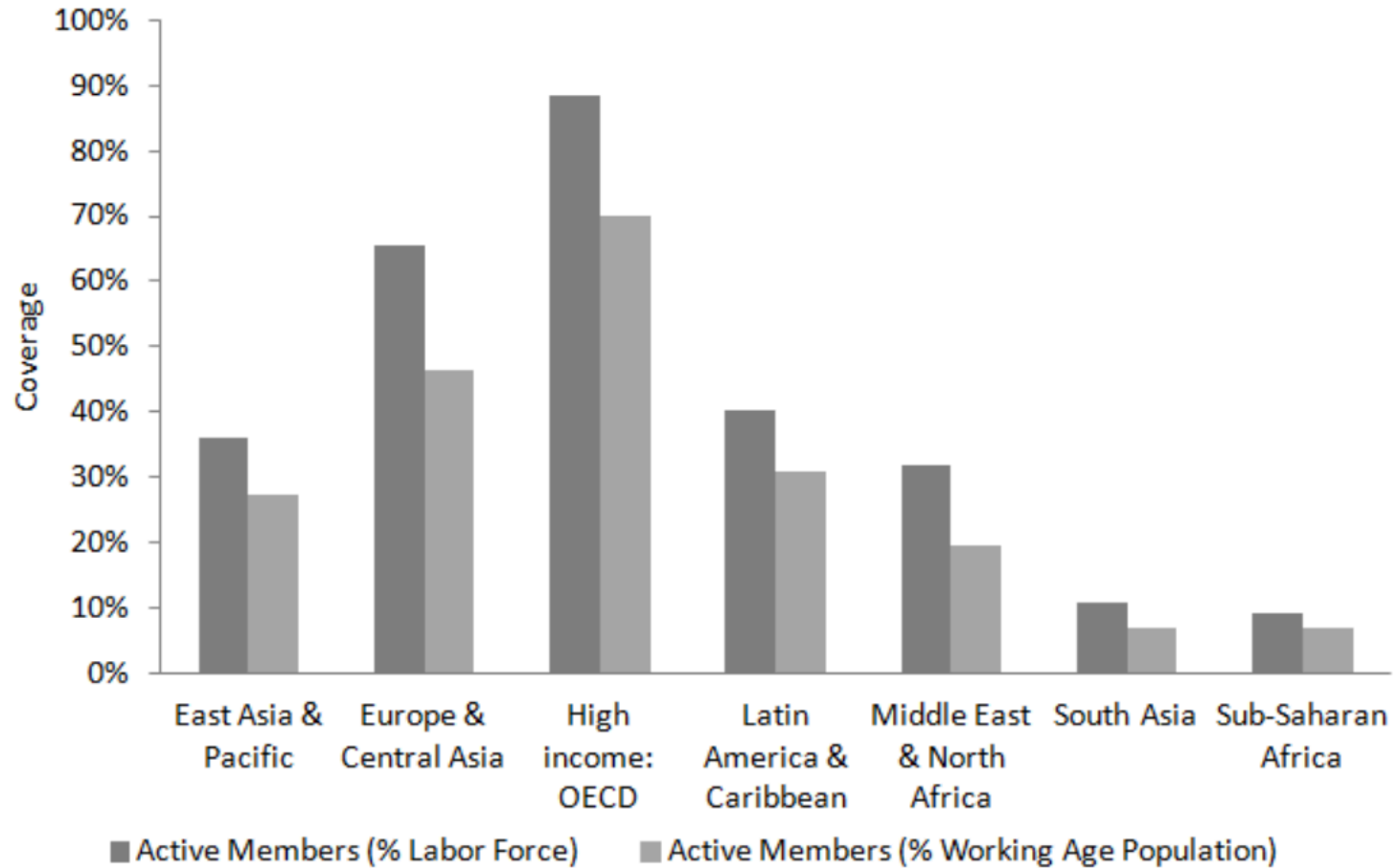
Figure 2: Global grades



Source: Melbourne Mercer Global Pension Index, 2019; grades based on pension adequacy, sustainability, and integrity.

...They Will Not Affect a Majority of the Workforce

Figure 18: Average coverage rates by region



Living Longer But Not Working Longer

- Extra years of LE = extra years of retirement in lower/lower-middle-income countries
- Options for financing old-age consumption
 - Self: labor earnings, savings
 - Family: multi-generational households, transfers
 - Employer: pensions
 - Government: public pensions, safety net programs
- Which source will finance extra retirement years?
 - Family? Strained by lower fertility rates
 - Employer? Only if strong formal sector & tradition
 - Government? Share of GDP on pensions <3% in all regions except Europe/OECD, but many competing priorities

Thank you!

References

- Ben-Porath, Y. (1967). The production of human capital and the life cycle of earnings. *Journal of political economy*, 75(4, Part 1), 352-365.
- Bloom, D. E., Canning, D., & Moore, M. (2014). Optimal retirement with increasing longevity. *The Scandinavian journal of economics*, 116(3), 838-858.
- Bloom, D. E., Canning, D., & Moore, M. (2007). *A theory of retirement* (No. w13630). National Bureau of Economic Research.
- Börsch-Supan, A. H., & Coile, C. (2018). *Social security programs and retirement around the world: Reforms and retirement incentives—introduction and summary* (No. w25280). National Bureau of Economic Research.
- Chang, F. R. (1991). Uncertain lifetimes, retirement and economic welfare. *Economica*, 215-232.
- Coile, C., K. Milligan, and D. Wise (2020). *Social security programs and retirement around the world: Working Longer*. University of Chicago Press.
- Costa, D. L. (1998). The evolution of retirement. In *The Evolution of Retirement: An American Economic History, 1880-1990* (pp. 6-31). University of Chicago Press.
- Fetter, D. K., & Lockwood, L. M. (2018). Government old-age support and labor supply: Evidence from the old age assistance program. *American Economic Review*, 108(8), 2174-2211.
- Gelber, A. M., Isen, A., & Song, J. (2017). The Effect of Pension Income on Elderly Earnings: Evidence from Social Security.
- Goldin, C., & Katz, L. F. (2018). *Women Working Longer* (p. 11). University of Chicago Press.
- Graebner, W. (1980). *A History of Retirement: the Meaning and Function of An American Institution, 1885–1978*. New Haven, Yale University Press.
- Hansen, C. W., & Lønstrup, L. (2012). Can higher life expectancy induce more schooling and earlier retirement?. *Journal of Population Economics*, 25(4), 1249-1264.
- Hazan, M. (2009). Longevity and lifetime labor supply: Evidence and implications. *Econometrica*, 77(6), 1829-1863.
- Kalemli-Ozcan, S., & Weil, D. N. (2010). Mortality change, the uncertainty effect, and retirement. *Journal of Economic Growth*, 15(1), 65-91.
- Lau, S. H. P., & Sánchez-Romero, M. (2012). Mortality transition and differential incentives for early retirement. *Journal of Economic Theory*, 147(1), 261-283.
- Moen, J. R. (1988). Past And Current Trends In Retirement: American Men From 18. *Economic Review-Federal Reserve Bank of Atlanta*, 73(4), 16.
- Schirle, T. (2008). Why have the labor force participation rates of older men increased since the mid-1990s?. *Journal of labor economics*, 26(4), 549-594.