

Creative Destruction in Ageing Societies

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5 March 2003

Creative Destruction

“...the... process of industrial mutation... incessantly revolutionizes the economic structure from within, incessantly destroying the old one, incessantly creating a new one.

**Joseph Schumpeter
1938**

The Implications of Population Aging: A Sector by Sector Analysis



Realistic Way to Assess Sectors

- Focusing on the macroeconomic sectors
 - Government
 - Consumer goods and services
 - Investment
 - Technology development
- Cross sector interactions
 - Stimulating demand in Japan
 - Retirement income: finance and delivery
 - Industry protectionism
 - Immigration

Creative Destruction

This process of Creative Destruction is the essential fact about capitalism. It is what capitalism consists in and what every capitalist concern has got to live in.”

**Joseph Schumpeter
1938**

Creative Destruction and Government

“We are compelled to employ the active interest of the Nation as a whole through government in order to encourage a greater security for each individual who composes it.”

Franklin D. Roosevelt
June 8, 1934

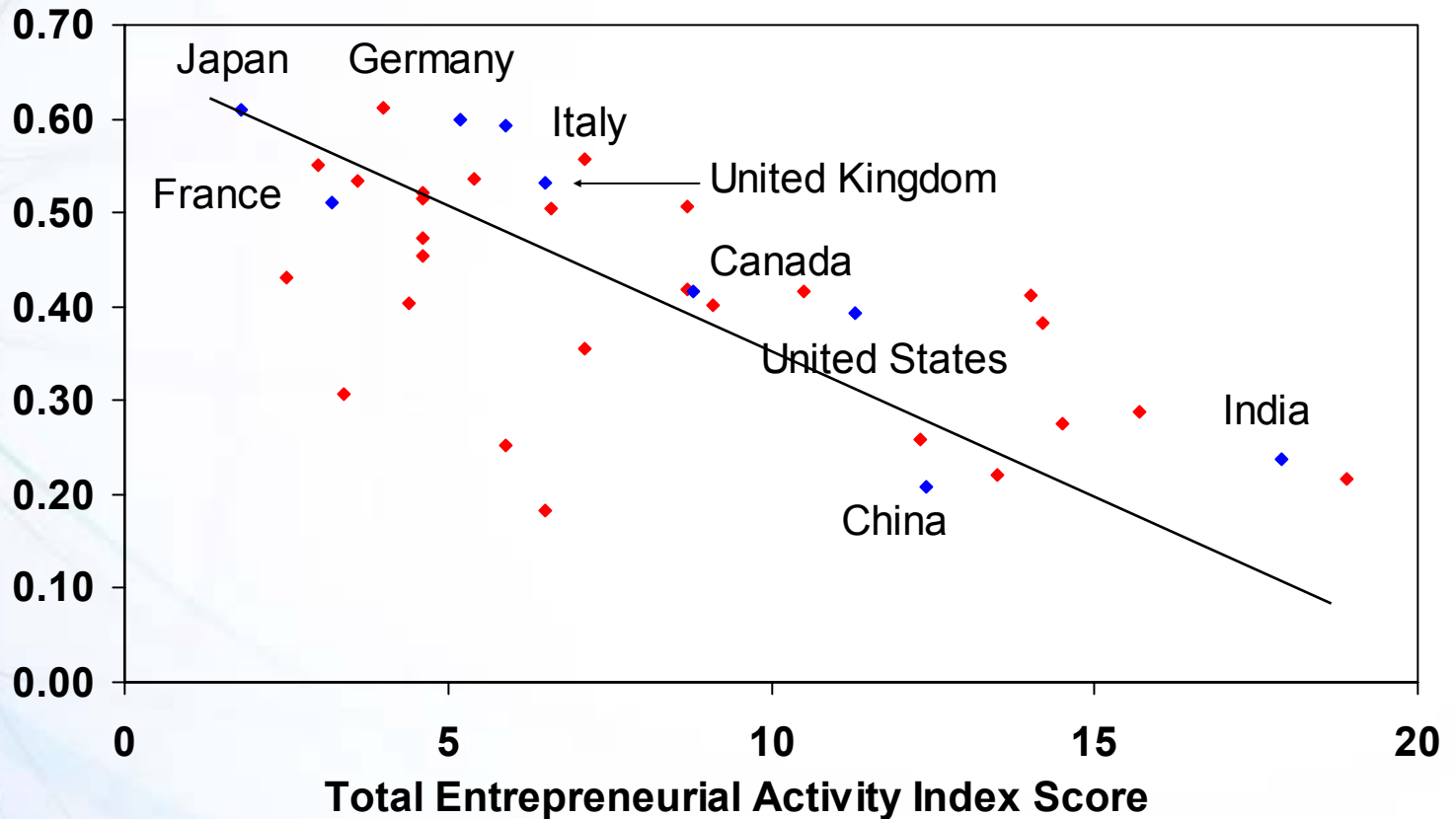


Creative Destruction in the Consumer Goods and Services Sector

- The 1987 status of companies on the “Forbes 100” list of largest U.S. companies from 1917
 - 18 were still in the top 100
 - 21 more were still in operation
 - 61 had ceased to exist
- London Business School’s “Total Entrepreneurial Activity (TEA) Index”
 - Percent of the labor force involved in starting a new venture or owner/manager of a business that is less than 42 months old
 - 2002 survey covered 37 countries, 60 + percent of world population and 92 percent of world GDP

Creative Destruction in the Consumer Goods and Services Sector

Ratio of people ages 55 + to those 20 to 54



Creative Destruction in the Investment Sector

- Poterba and French: Investors expect returns in their own equity markets to be several hundred basis points higher than in other countries (*American Economic Review* 1991)

Domestic ownership of stock in 1989

United States	92.2 %
Japan	95.7
United Kingdom	92.0
Germany	79.0
France	89.4

Creative Destruction in the Investment Sector

- Poterba and French: Investors expect returns in their own equity markets to be several hundred basis points higher than in other countries (*American Economic Review* 1991)
- Holzmann: In 1995 OECD countries invested 89 percent of pension assets in domestic markets; in non-OECD countries, 99.3 was invested domestically (World Bank, 2000)
- Ahearne, Grier and Warnock: U.S. home bias is reduced the greater the share of the foreign market publicly listed in the United States (Federal Reserve Bank, 2001)
- Mann and Meade: European portfolio managers significantly overweight holdings of European equities and Japanese portfolio overweight Japanese equities (In *Asset Price Bubbles*, MIT Press, 2003)



Creative Destruction in the Investment Sector

■ Implications of aging

- Savings rates may go up as labor force growth slows or begins to contract prior to the retirement boom
- Labor force growth will encourage capital deepening
- At best, capital deepening and surplus savings may drive down rates of return
- At worst, surplus capacity may render significant shares of capital stock virtually worthless
- More conservative, older investors may increase home bias

Creative Destruction in the Investment Sector

- Implications of aging
- How does capital perform in older versus younger societies?
 - Looked at publicly disclosed firms in OECD countries in 1991, 1996 and 2001
 - Found that creation of surplus value—Tobin's Q—was highly but negatively correlated with aged dependency rates
 - A 0.10 higher dependency ratio was associated with:
 - 18 percent lower Tobin's Q score in 1991
 - 22 percent lower Tobin's Q score in 1996
 - 23 percent lower Tobin's Q score in 2001

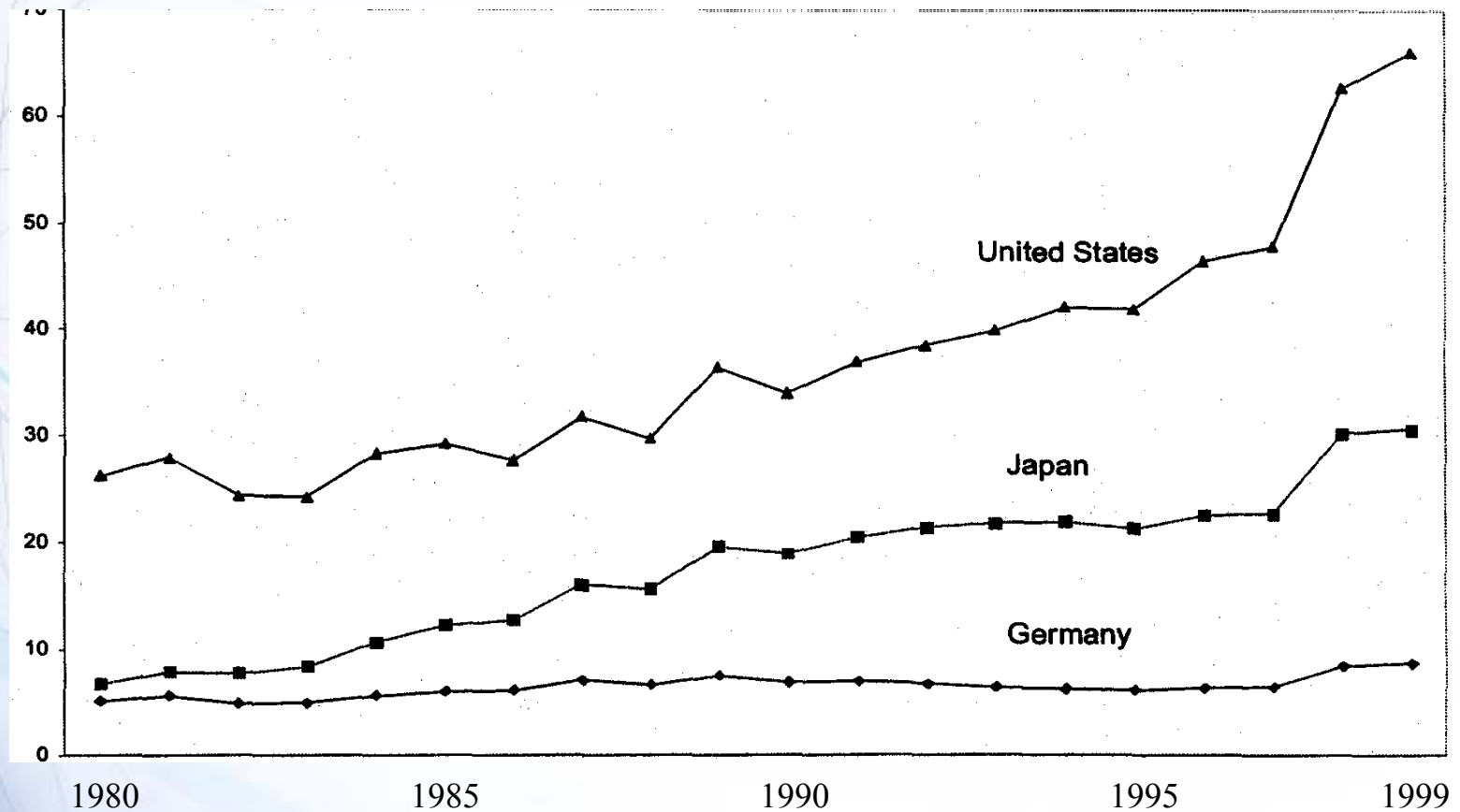
Dependency Ratios as Defined in the Analysis

- In In 1991, a 0.10 higher dependency associated with an 18 percent lower Tobin's Q score, 22 percent in 1996, and 23 percent in 2001

	2000	2010	2030
Canada	0.416	0.538	0.719
France	0.510	0.635	0.769
Germany	0.599	0.661	0.863
Italy	0.592	0.698	0.874
Japan	0.610	0.824	0.936
United Kingdom	0.536	0.616	0.760
United States	0.417	0.509	0.647

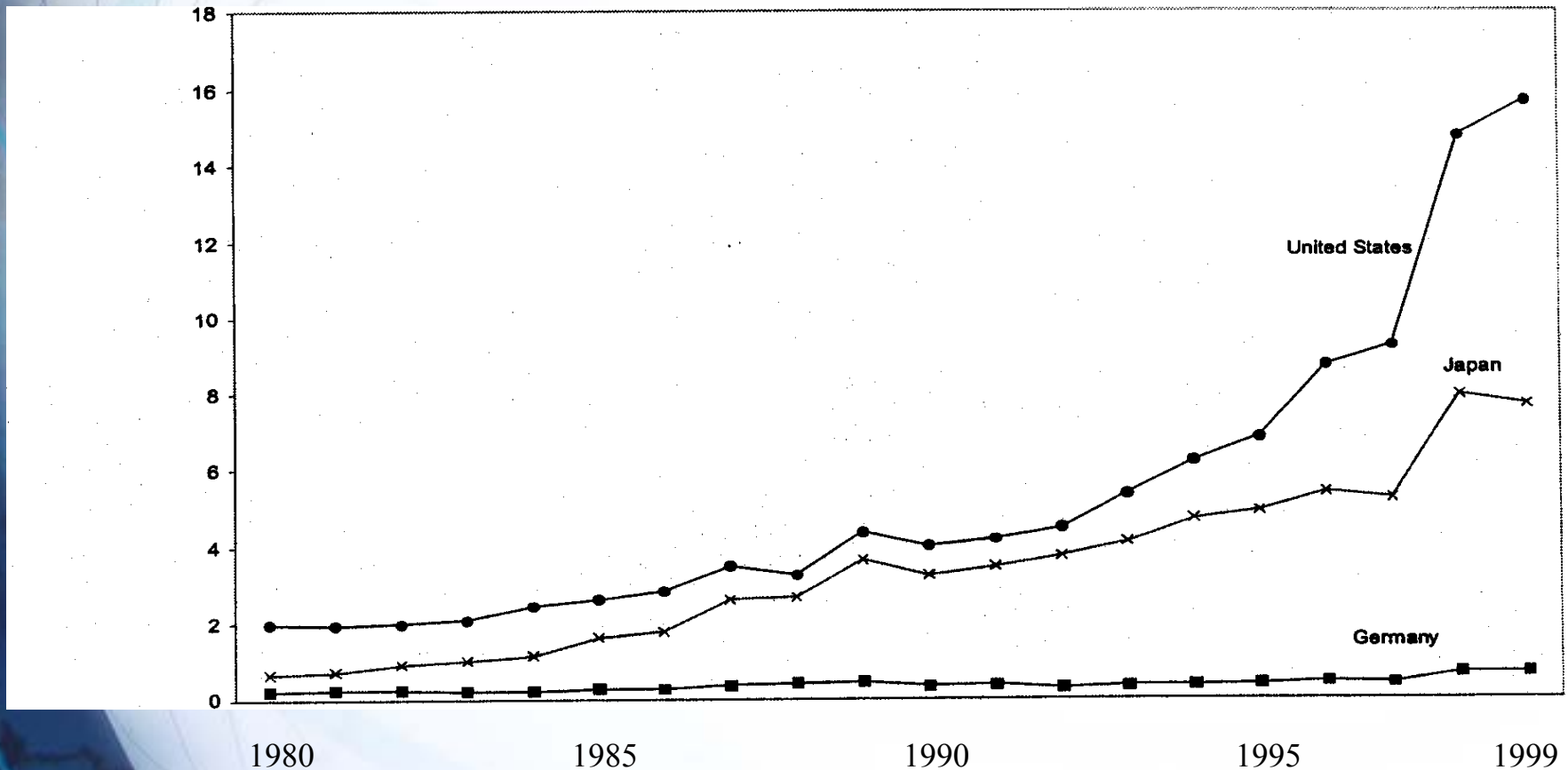
Creative Destruction and Technology Development

Thousands of U.S. patents issued to German, Japanese, and U.S. filers



Creative Destruction and Technology Development

Thousands of U.S. IT patents issued to German, Japanese, and U.S. filers

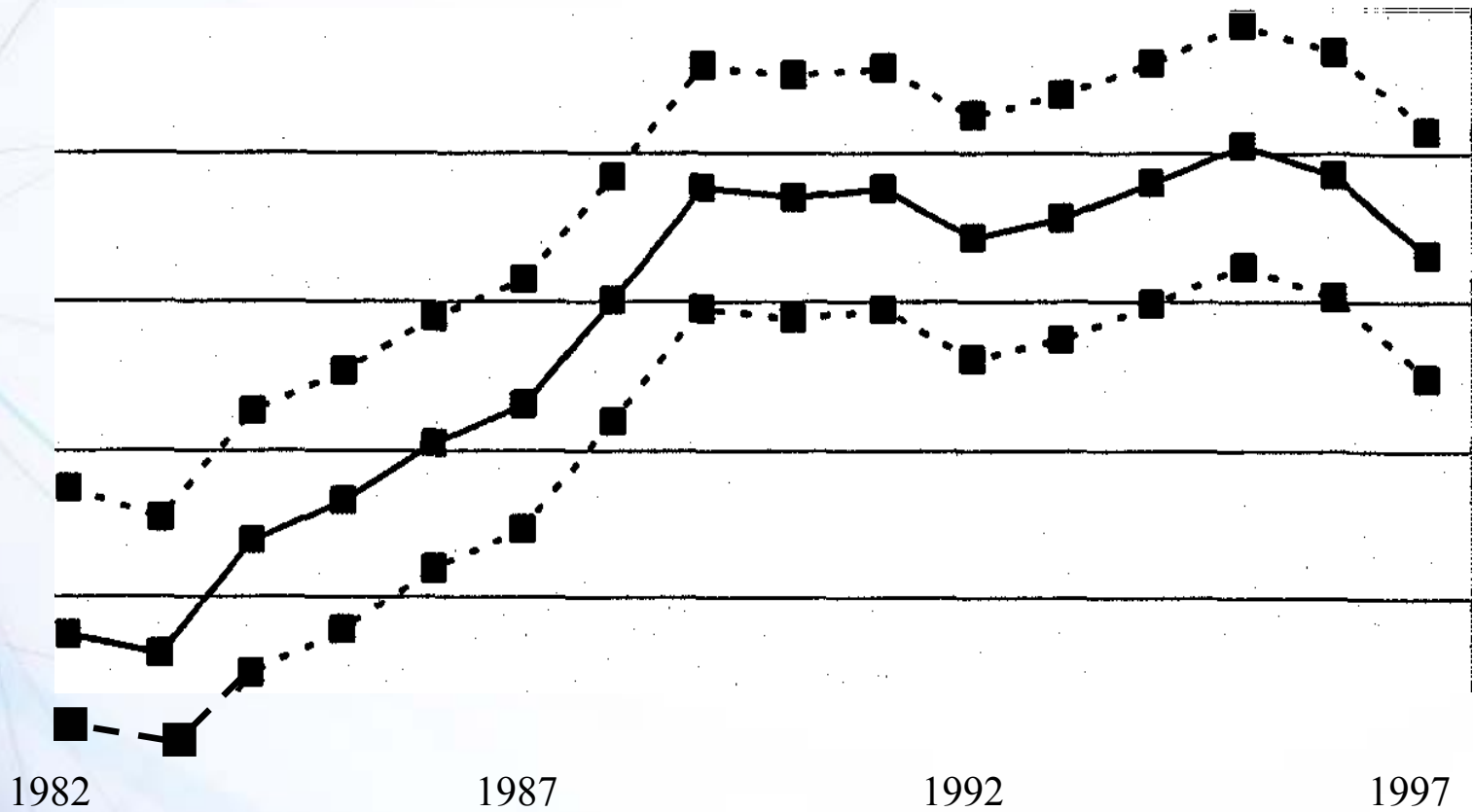


15 Lee Branstetter and Yoshiaki Nakamura, "Is Japan's Innovative Capacity in Decline," NBER Working Paper, January 2003.



Creative Destruction and Technology Development

U.S. patents issued to Japanese firms controlling for R&D spending



Creative Destruction in the Face of Government Intervention

- Propping up industries in sagging economies

Creative Destruction in the Face of Government Intervention

Japanese Fiscal Stimulus Packages Since 1992

Date	Billion Yen	% in public works
Aug 92	10,700	58.4 %
Apr 93	13,200	57.7
Sep 93	6,200	31.5
Feb 94	15,300	29.4
Apr 95	4,600	23.4
Sep 95	12,800	51.1
Apr 98	16,700	46.1
Nov 98	23,900	33.9
Nov 99	18,000	37.8
Oct 00	11,000	47.3
Nov 01	1,000	40.0
Feb 02	2,600	100.0
Total	136,000	43.2

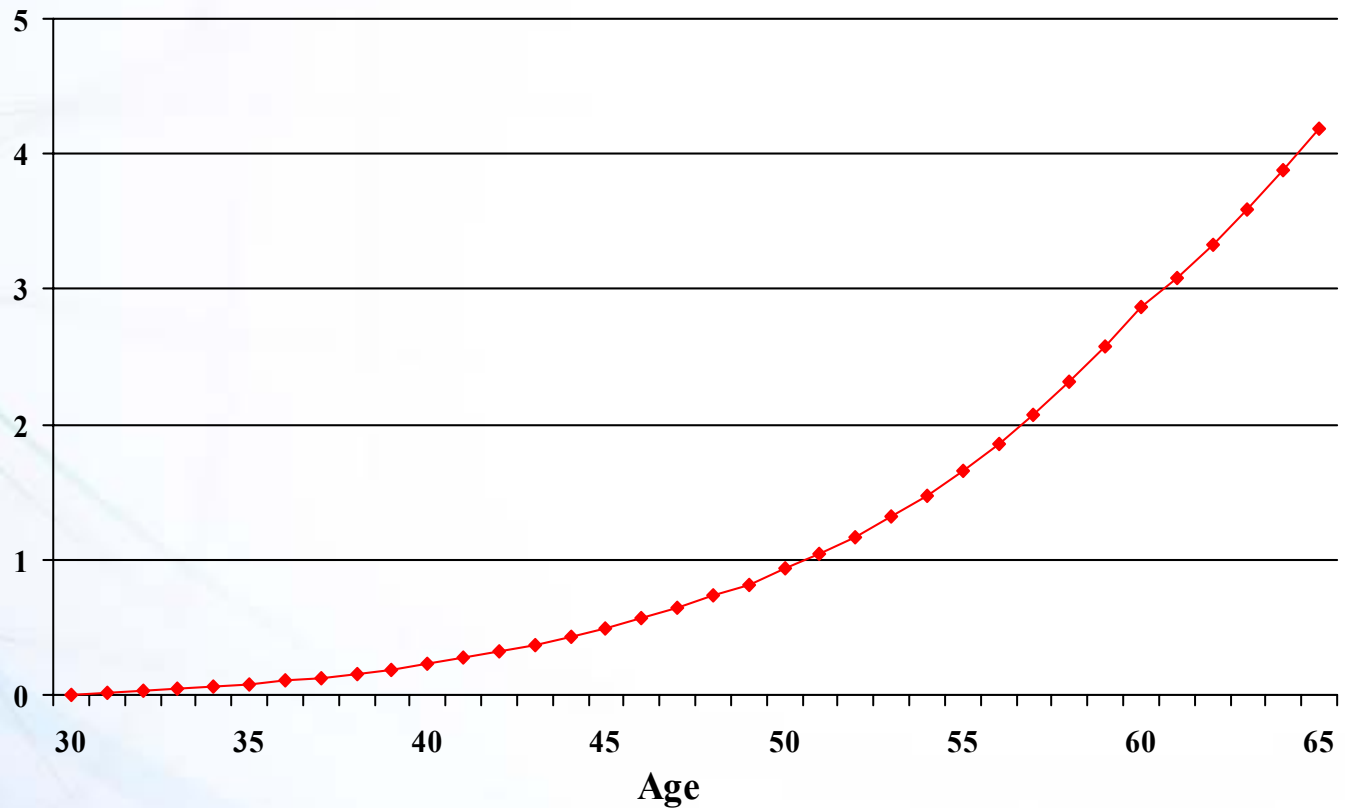


Creative Destruction in the Face of Government Intervention

- Propping up industries in sagging economies
- Intervening as employers respond to demographic realities

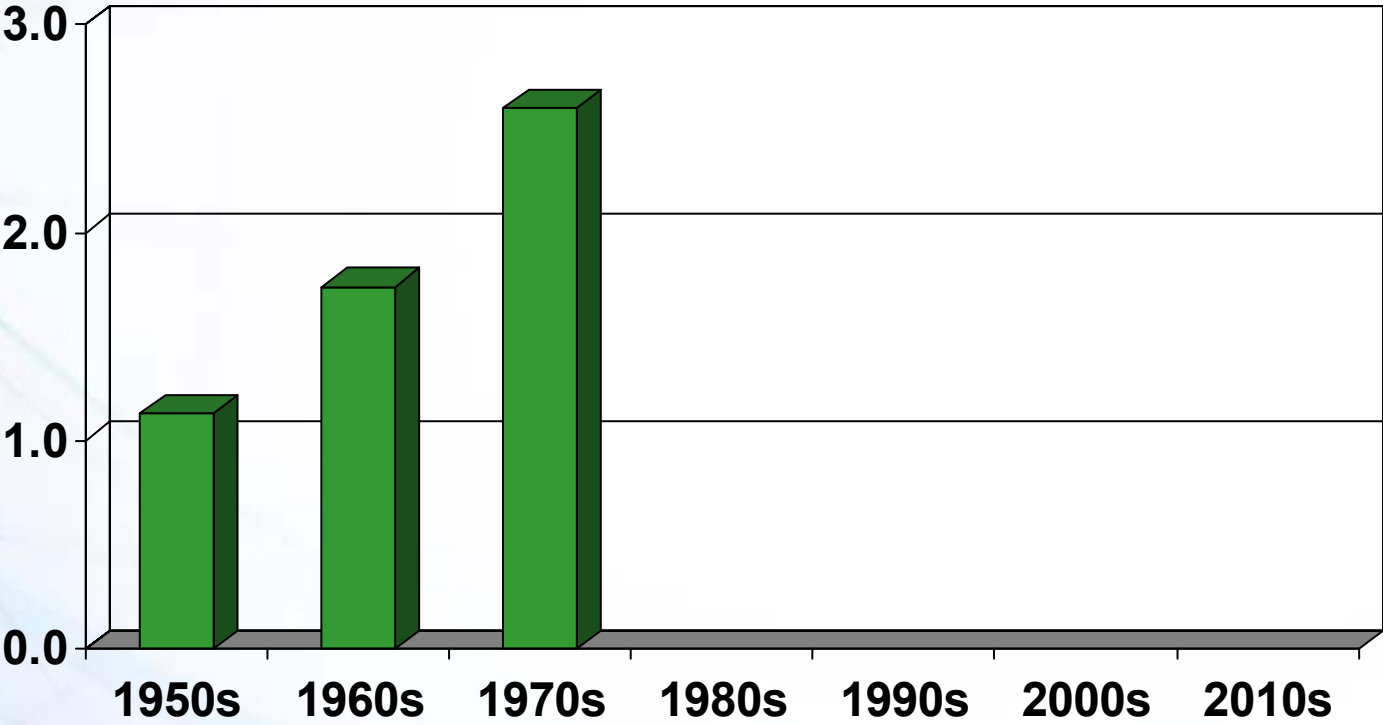
The Structure of Employer-Sponsored Pension Accruals in the United States during the 1950s and 1960s

Accrued benefit as a multiple of annual pay



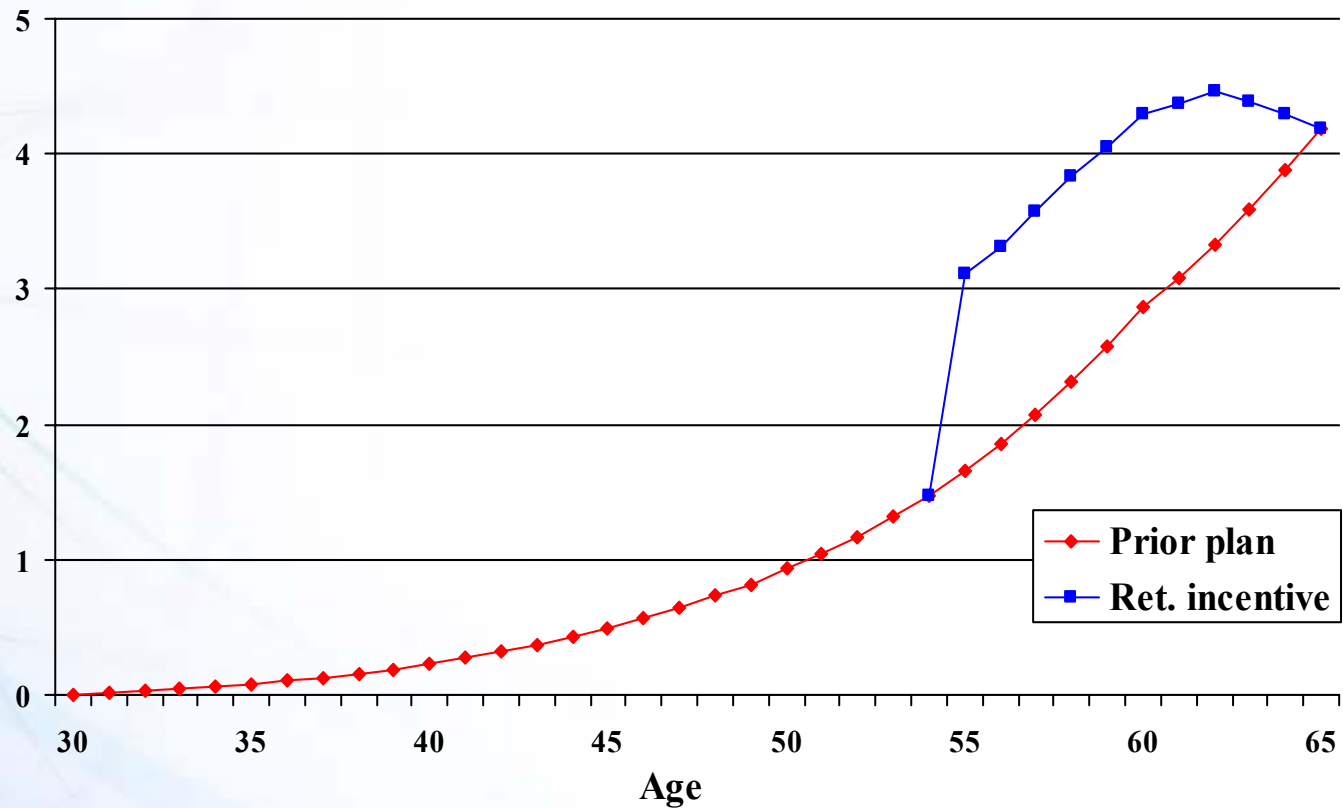
US Civilian Labor Force Growth Rate for Selected Decades

Compound annual growth rate for the period



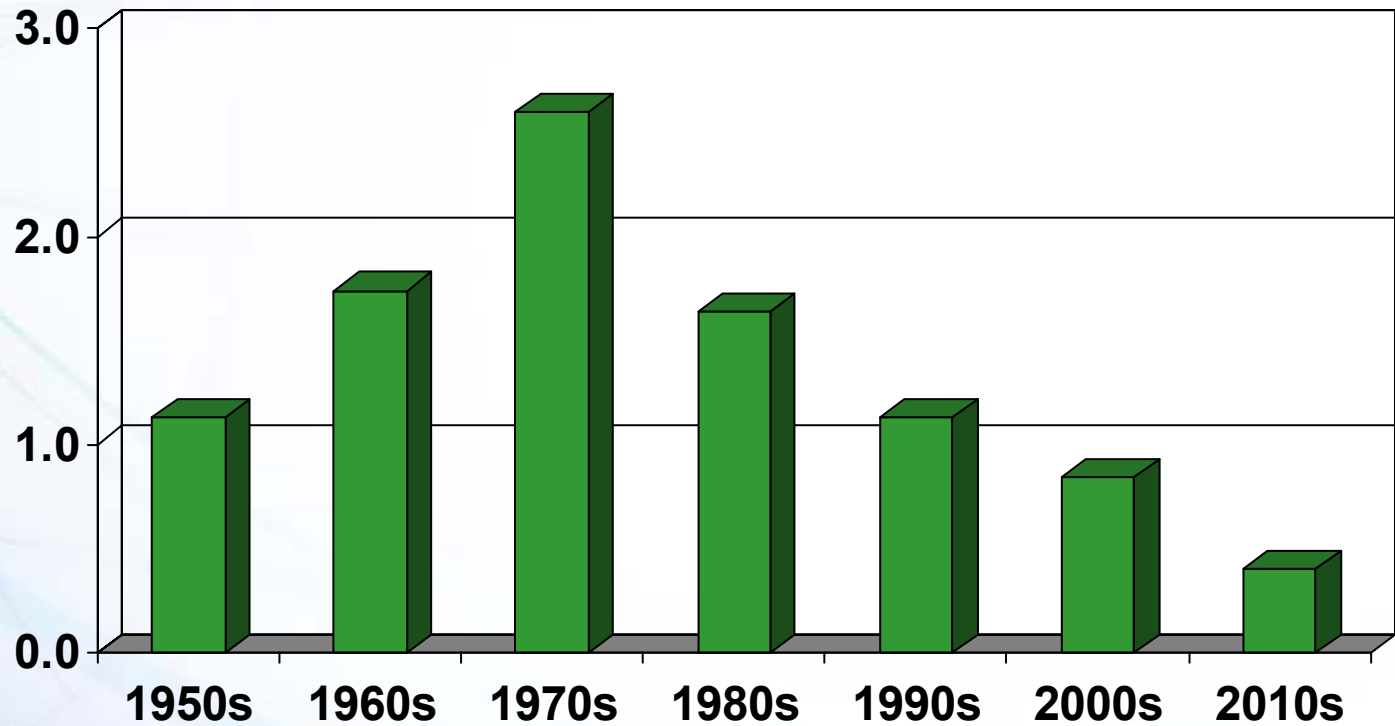
The Modified Structure of Employer-Sponsored Pension Accruals Adopted in the United States during the 1970s

Accrued benefit as a multiple of annual pay



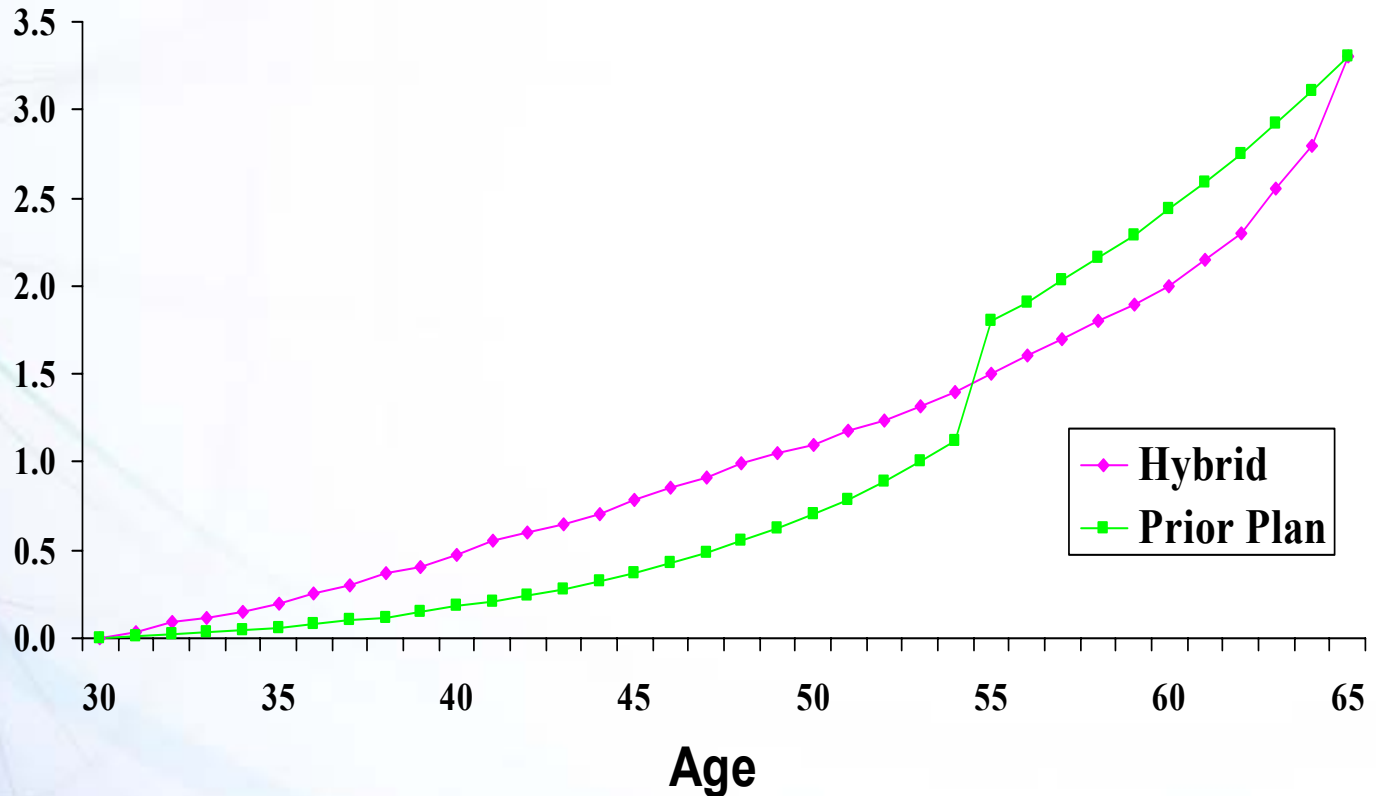
US Civilian Labor Force Growth Rate for Selected Decades

Compound annual growth rate for the period



The Re-Modified Structure of Employer-Sponsored Pension Accruals Adopted in the United States during the 1970s

Value of accrued benefit as a multiple of annual pay



Creative Destruction in the Face of Government Intervention

- Propping up industries in sagging economies
- Intervening as employers respond to demographic realities
- Industry protectionism

Creative Destruction in the Real Context of International Trade

- We all talk about free trade but the reality is otherwise
 - Developed countries often see other developed countries protecting relatively basic industries
 - Agriculture
 - Primary inputs
 - Old line industries
 - The developing nations see the developed trade policies as impeding their progress
- Protectionism tends to be most concentrated on our least efficient sectors

Creative Destruction in the Face of Government Intervention

- Propping up industries in sagging economies
- Intervening as employers respond to demographic realities
- Industry protectionism
- Immigration

The Ultimate Creative Destruction: Immigration

Demographic pressures will result in the developed economies significantly increasing their immigration rates in order to bring surplus labor to their existing supplies of capital.

**Alan Greenspan
U.S. Senate Select
Committee on Aging
27 February 2003**



Fertility Rates below Replacement Rate Fertility

Averages for 1995-2000 period

	TFR	Added births to TFR (000s)
Canada	1.6	557
France	1.7	770
Germany	1.3	2,231
Italy	1.2	1,952
Japan	1.4	3,008
U.K.	1.7	828
U.S.	2.0	558

Immigration Rates and Fertility Rates below Replacement Rate Fertility

Averages for 1995-2000 period

	TFR	Added births to 2.1 TFR (000s)	Average net immigration (000s)
Canada	1.6	557	144
France	1.7	770	39
Germany	1.3	2,231	185
Italy	1.2	1,952	118
Japan	1.4	3,008	56
U.K.	1.7	828	95
U.S.	2.0	558	1,250

Increases in Immigration Rates Required to Offset Fertility Rates below Replacement Rate Fertility

Averages for 1995-2000 period

	TFR	Added births to 2.1 TFR (000s)	Average net immigration (000s)	Multiple of current rate to offset TFR
Canada	1.6	557	144	3.9
France	1.7	770	39	19.9
Germany	1.3	2,231	185	12.0
Italy	1.2	1,952	118	16.6
Japan	1.4	3,008	56	54.1
U.K.	1.7	828	95	8.7
U.S.	2.0	558	1,250	0.4

Creative Destruction

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