

GLOBAL DEMOGRAPHICS PROJECT



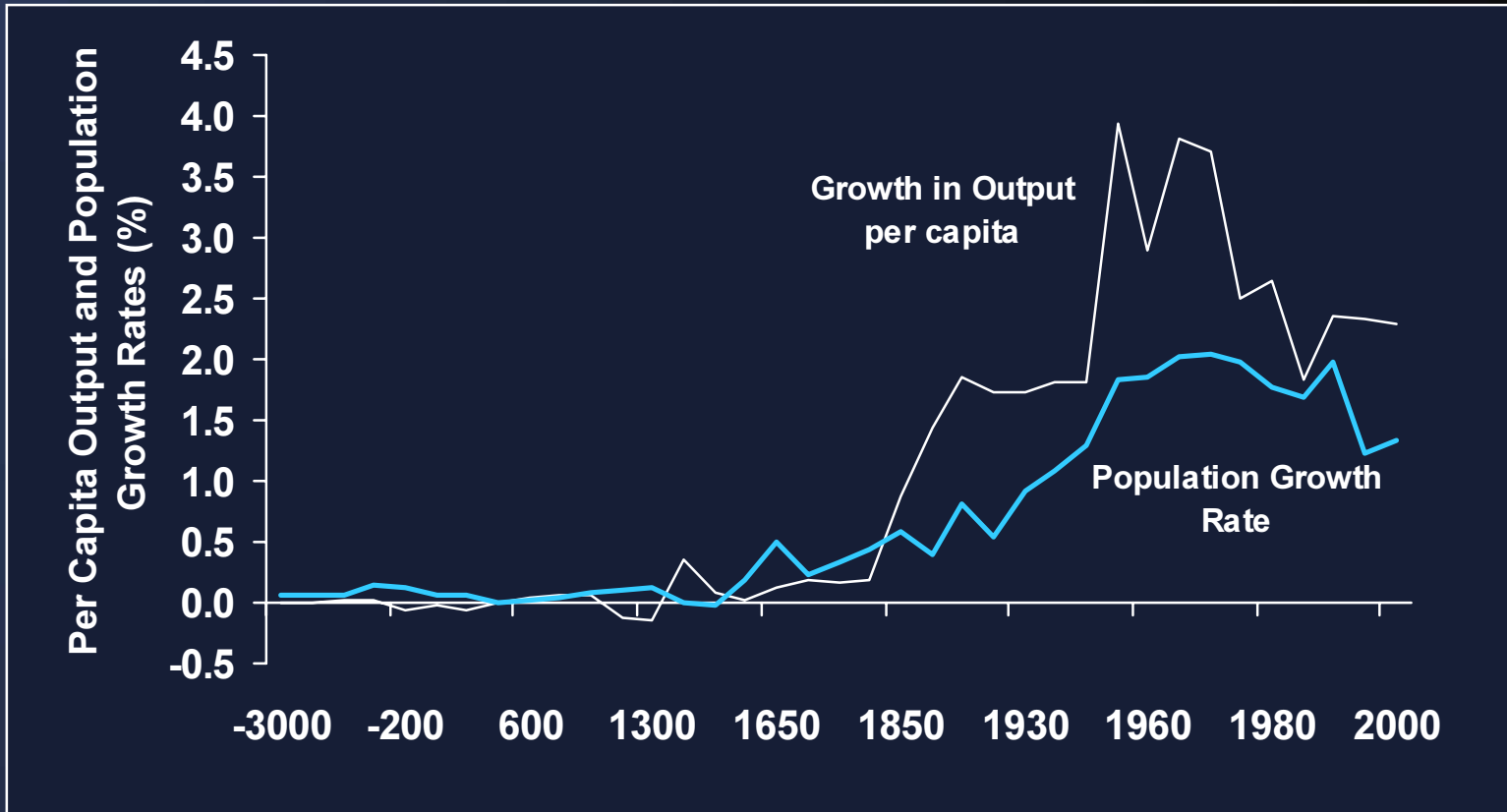
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Demographic Changes in the Coming Years

ULI Annual Conference
Prague
October 2, 2003

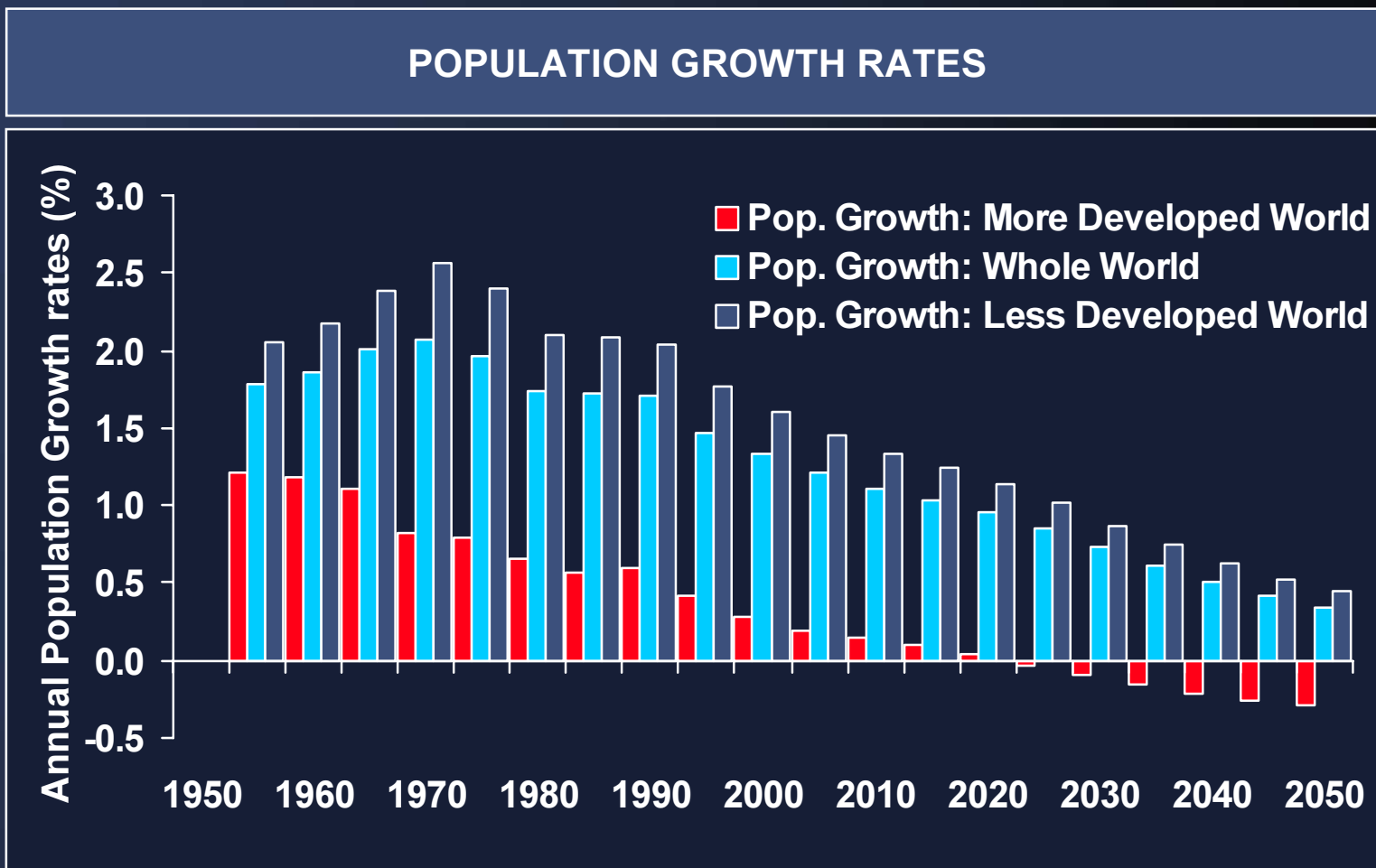
POPULATION GROWTH BOOSTS PROSPERITY

POPULATION GROWTH BOOSTS PROSPERITY



Source: Kremer (1993) Quarterly Journal of Economics, Berkeley Economics Dept

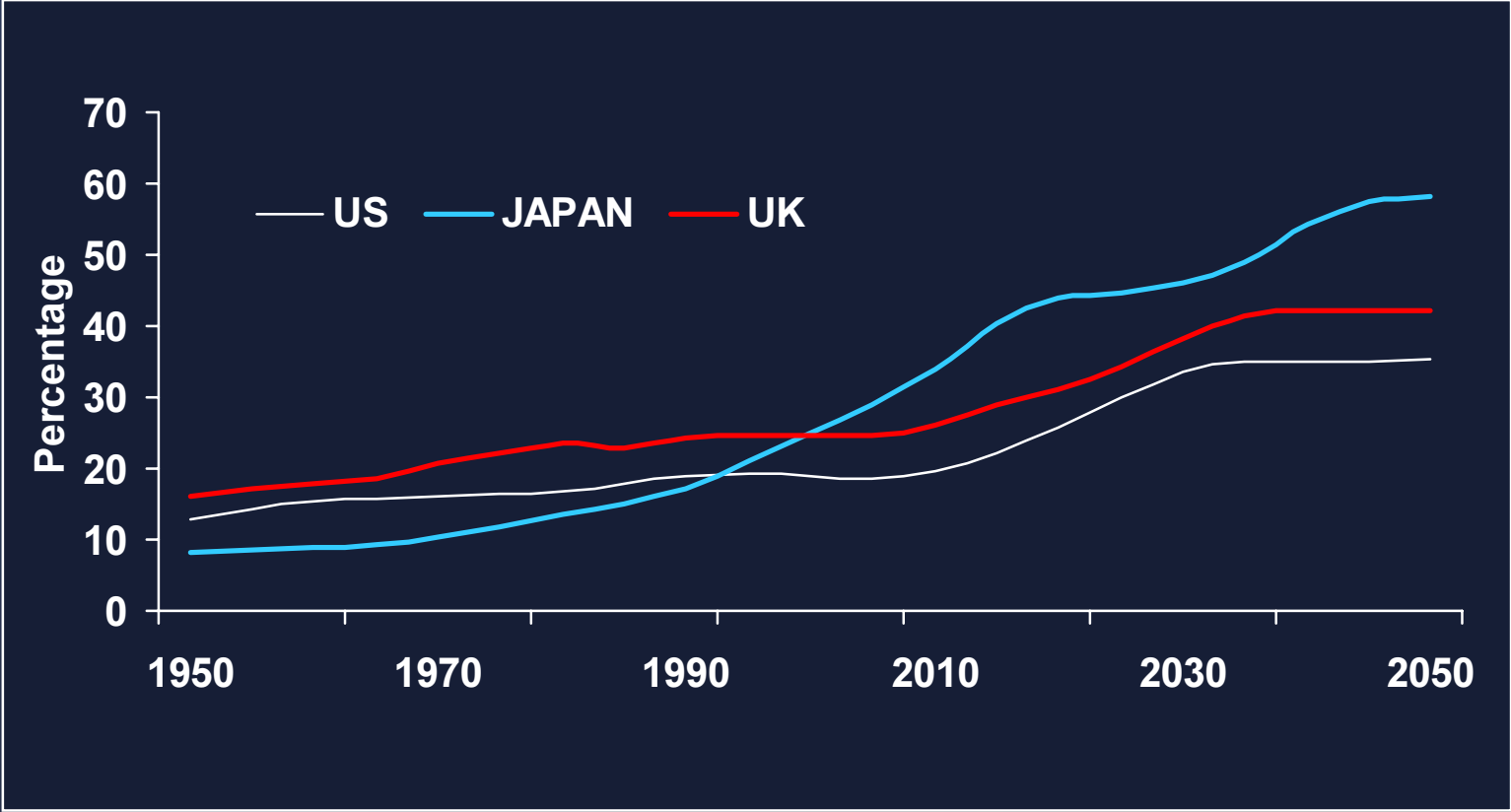
POPULATION GROWTH RATES



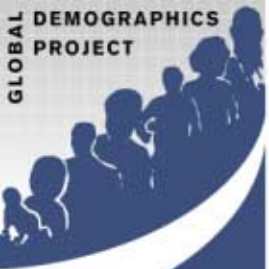
Source: UN World Population Database

DEMOGRAPHIC “TIME-BOMB”: RISING DEPENDENCY RATIOS

THE RISING AGE DEPENDENCY RATIO
(population 65+/population 15 – 64)



Source: UN World Population Database



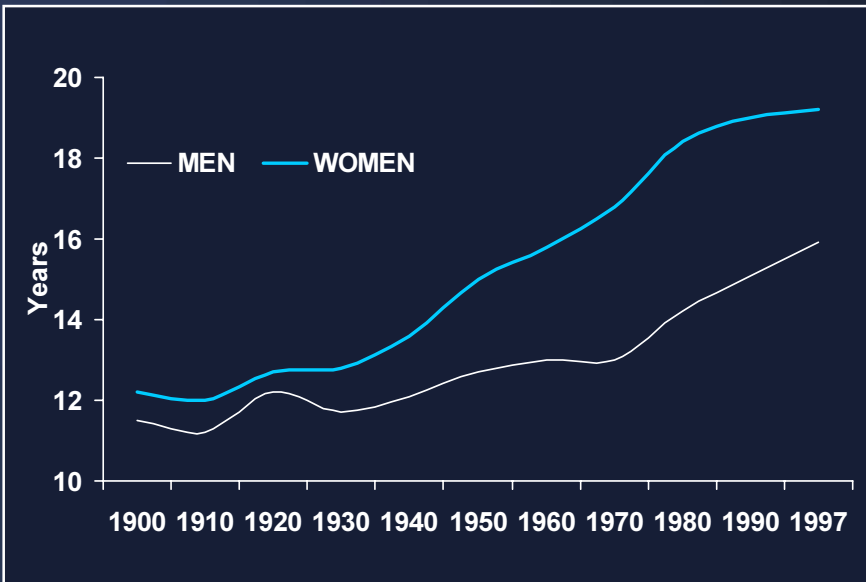
POTENTIAL SOLUTIONS TO THE DEMOGRAPHIC TIME-BOMB

Recommends the following policy actions to mitigate the impending demographics time-bomb:

- Abolish mandatory retirement, replacing it with a flexible, e-nabled mix of work and leisure for people from their 50s to their late 70s or even beyond
- A (further) dramatic increase in the role and status of women in the workforce, and the use of technology to allow radical solutions
- Facilitate migration, affirming the benefits for both host nations and immigrants
- Help people who stay at home in emerging nations, by boosting capital flows and economic integration between developed economies and their emerging neighbours

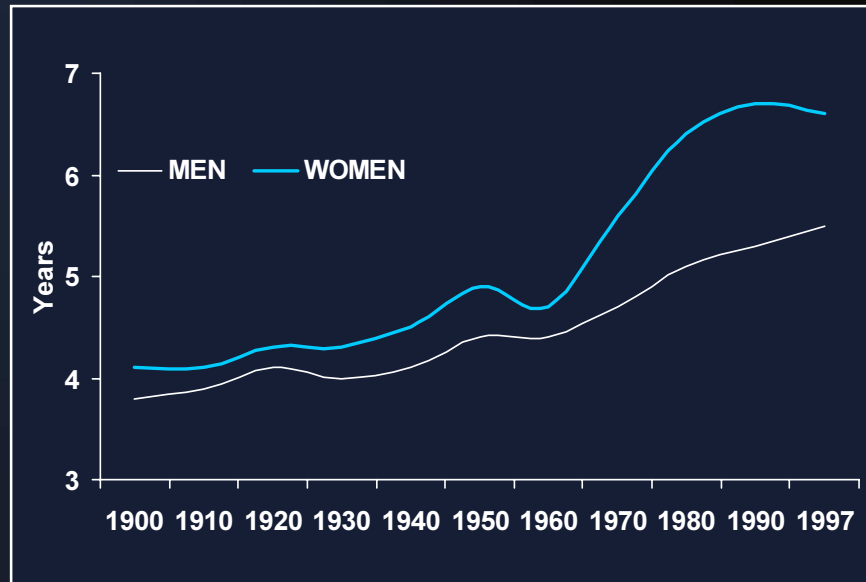
US: “YOUNG OLD” & “OLD OLD” GETTING HEALTHIER

‘YOUNG OLD’ ARE GETTING HEALTHIER
US: Life Expectancy at Age 65



Source: Federal Interagency Forum on Aging Related Statistics

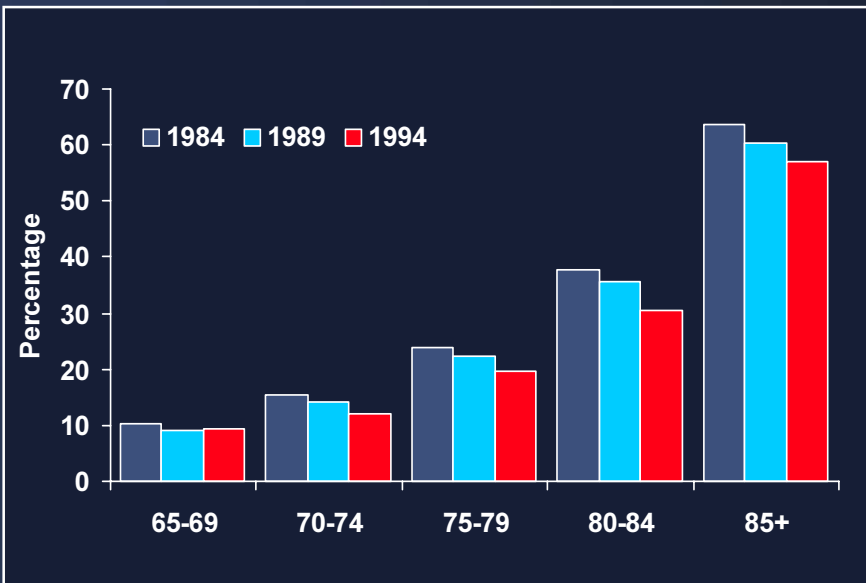
HEALTH IMPROVEMENTS IN THE ‘V. OLD’
US: Life Expectancy at Age 85



Source: Federal Interagency Forum on Aging Related Statistics

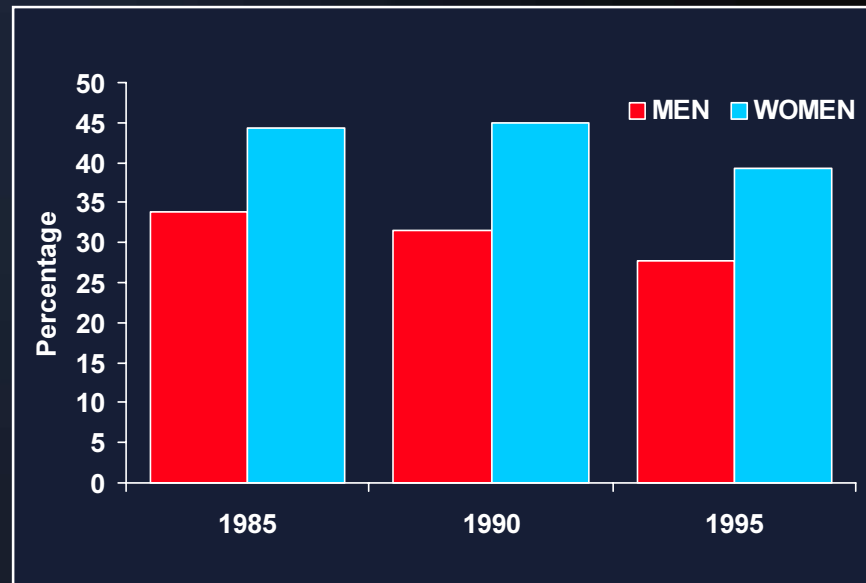
DECLINING DISABILITY & DESIRE FOR MORE ACTIVITY

US: DECLINE IN DISABILITY RATES BY AGE GROUP



Source: Federal Interagency Forum on Aging Related Statistics

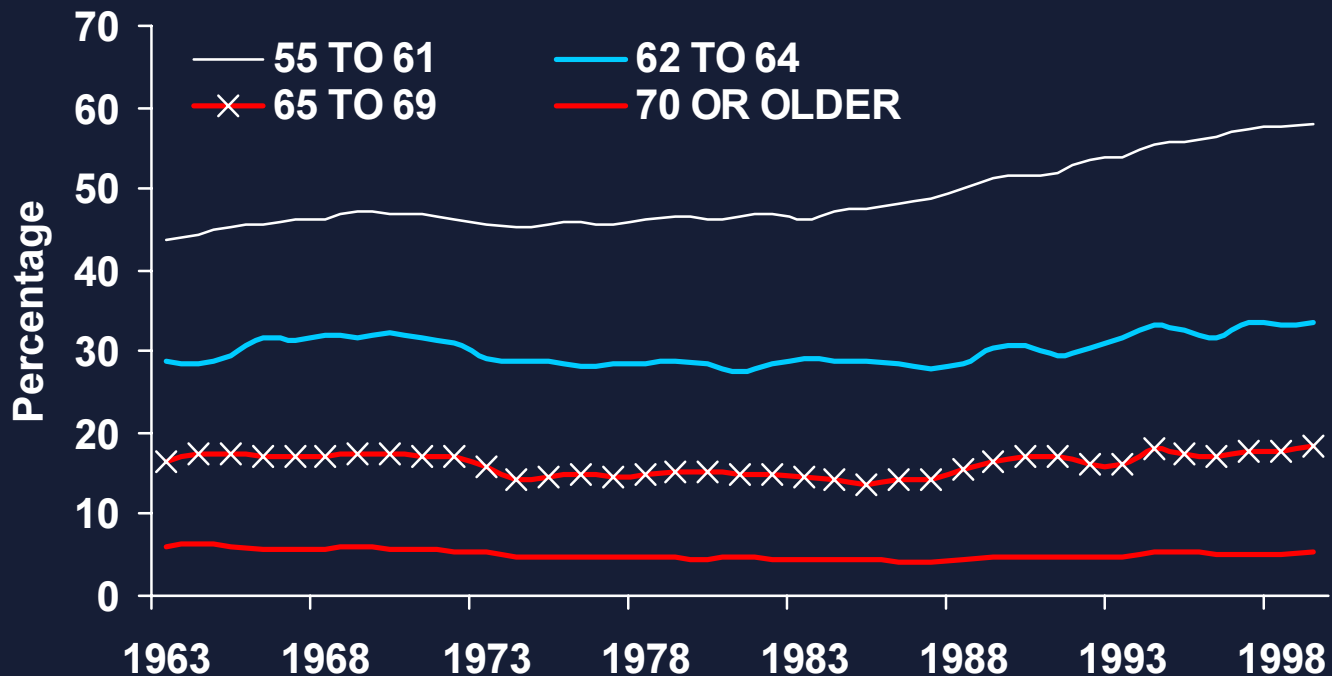
US: FEWER PEOPLE AGED 70+ REPORTING A SEDENTARY LIFESTYLE



Source: Federal Interagency Forum on Aging Related Statistics

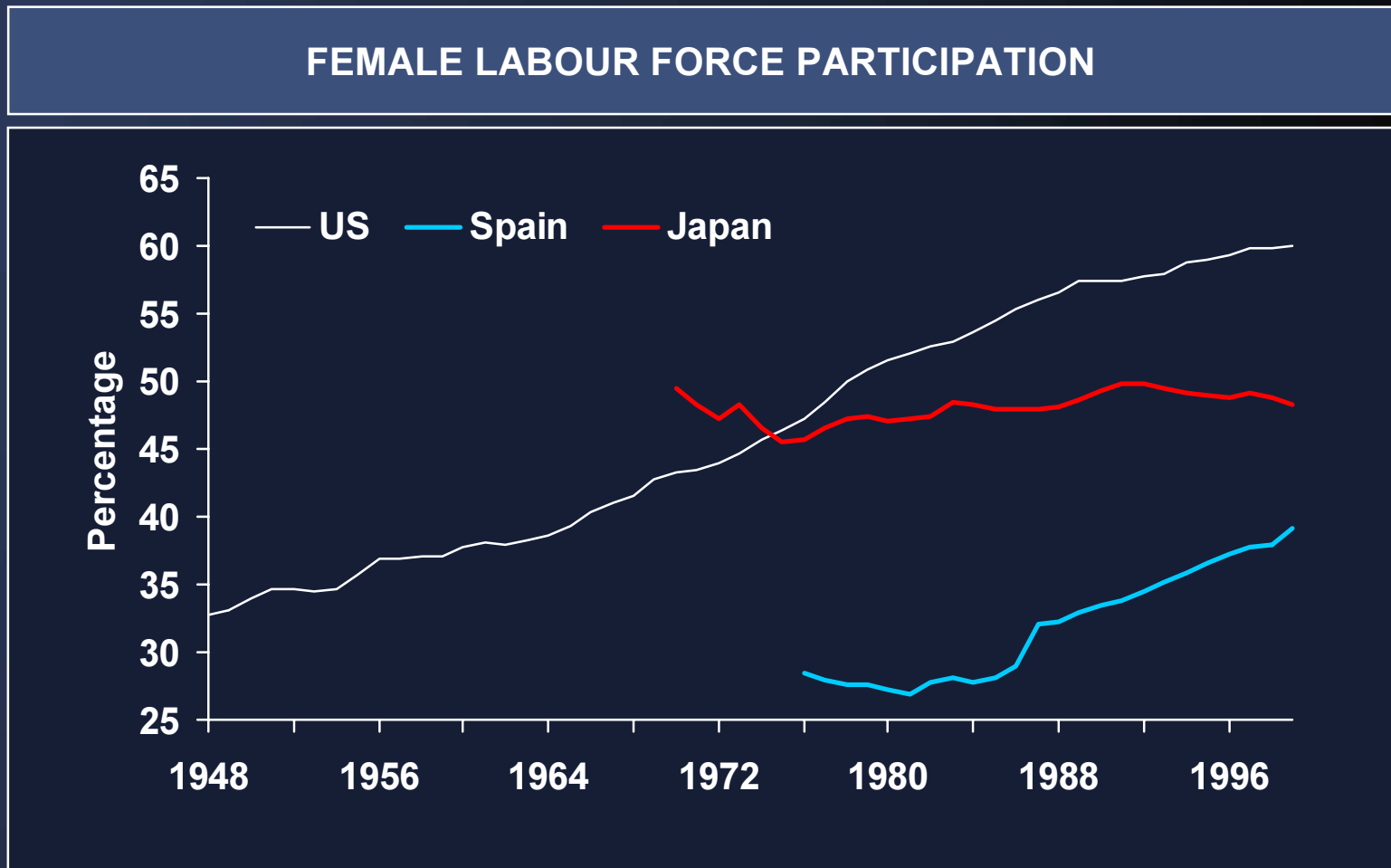
US: OLDER PEOPLE ARE WORKING MORE

US: OLDER WOMEN ARE WORKING MORE



Source: Federal Interagency Forum on Aging Related Statistics

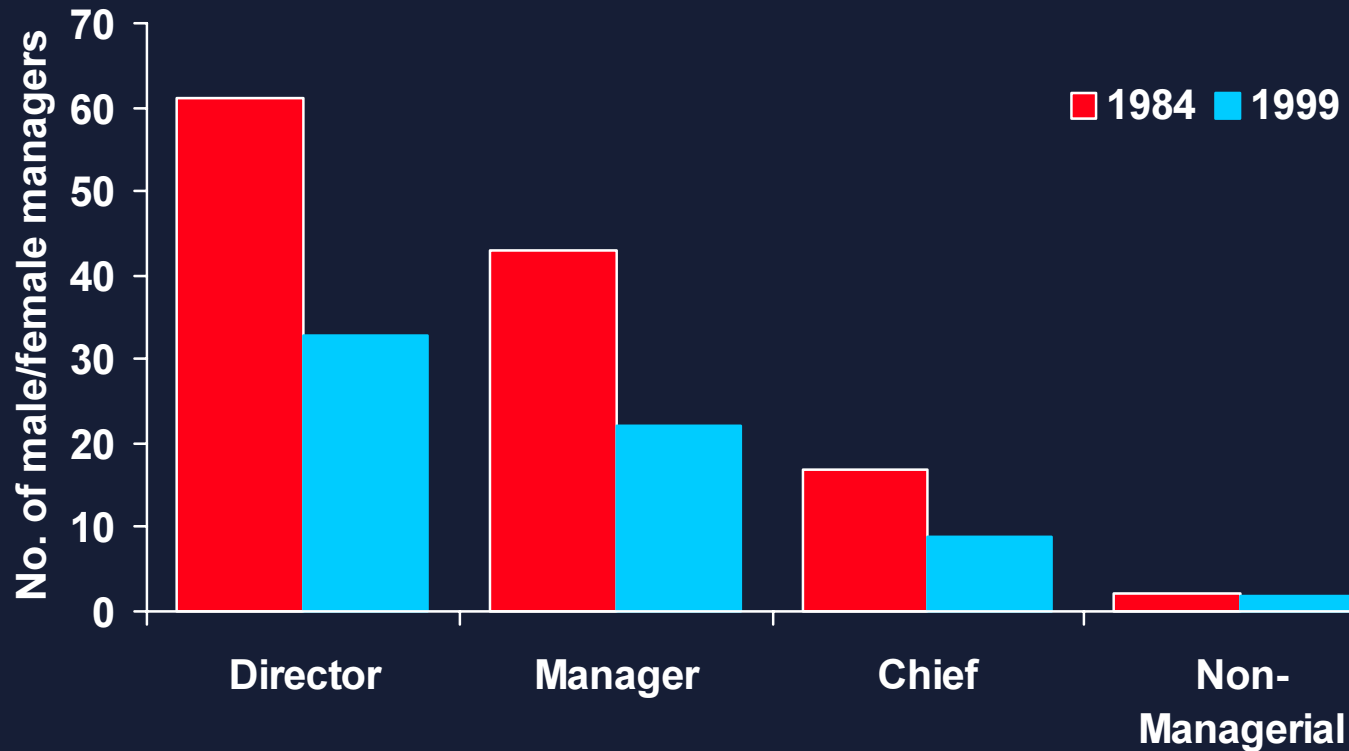
FEMALE LABOUR FORCE PARTICIPATION



Source: US: Bureau of Labor Statistics, Japan: Ministry of Labour, Spain: Institute National De Estadistica

JAPAN: MALE VERSUS FEMALE MANAGERS

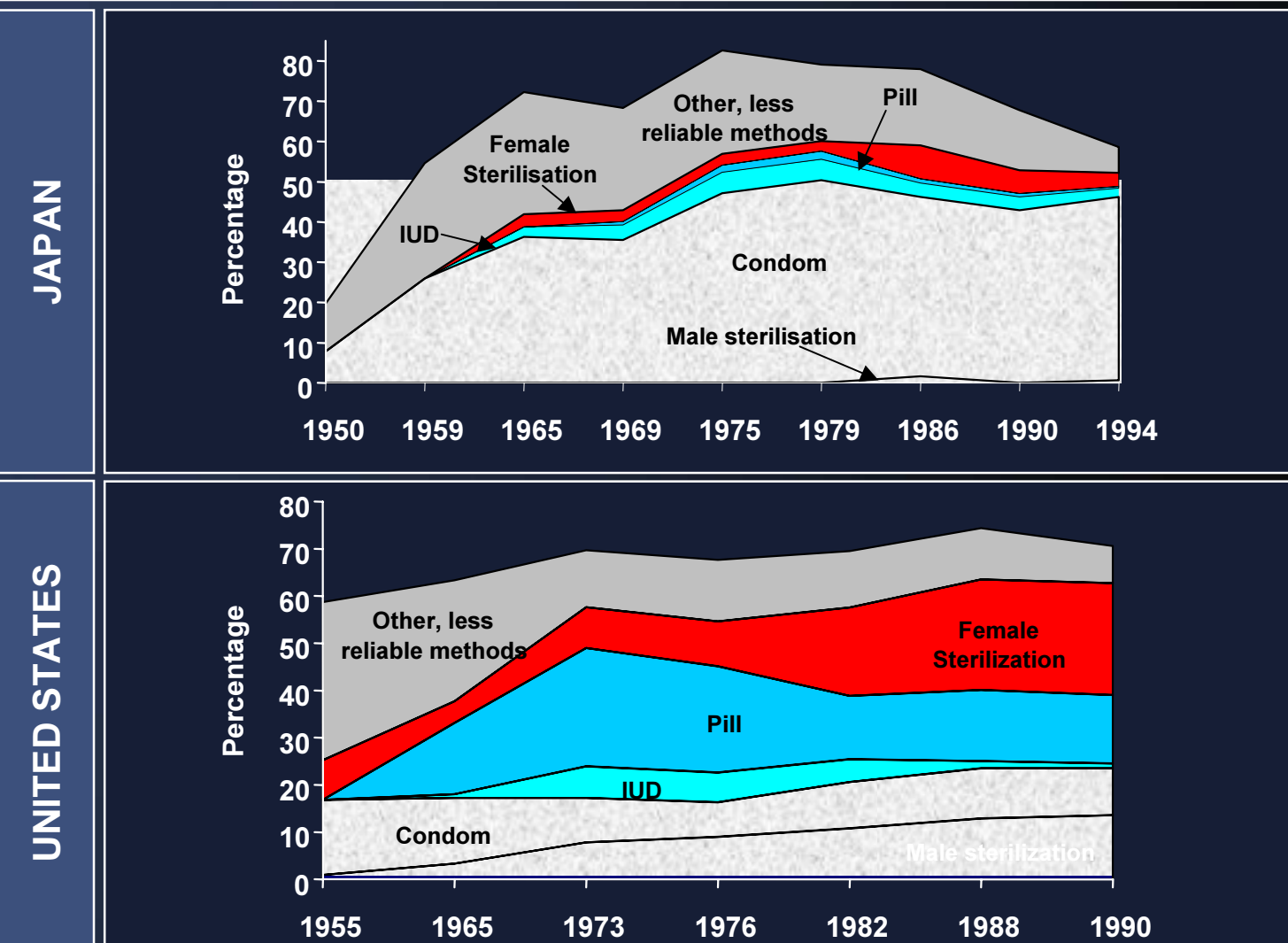
RATIO OF MEN/WOMEN MANAGERS
(adjusted for labour force participation)



Source: Japanese Ministry of Labour, US Bureau of Labor Statistics

PATTERNS OF CONTRACEPTIVE USE: US VERSUS JAPAN

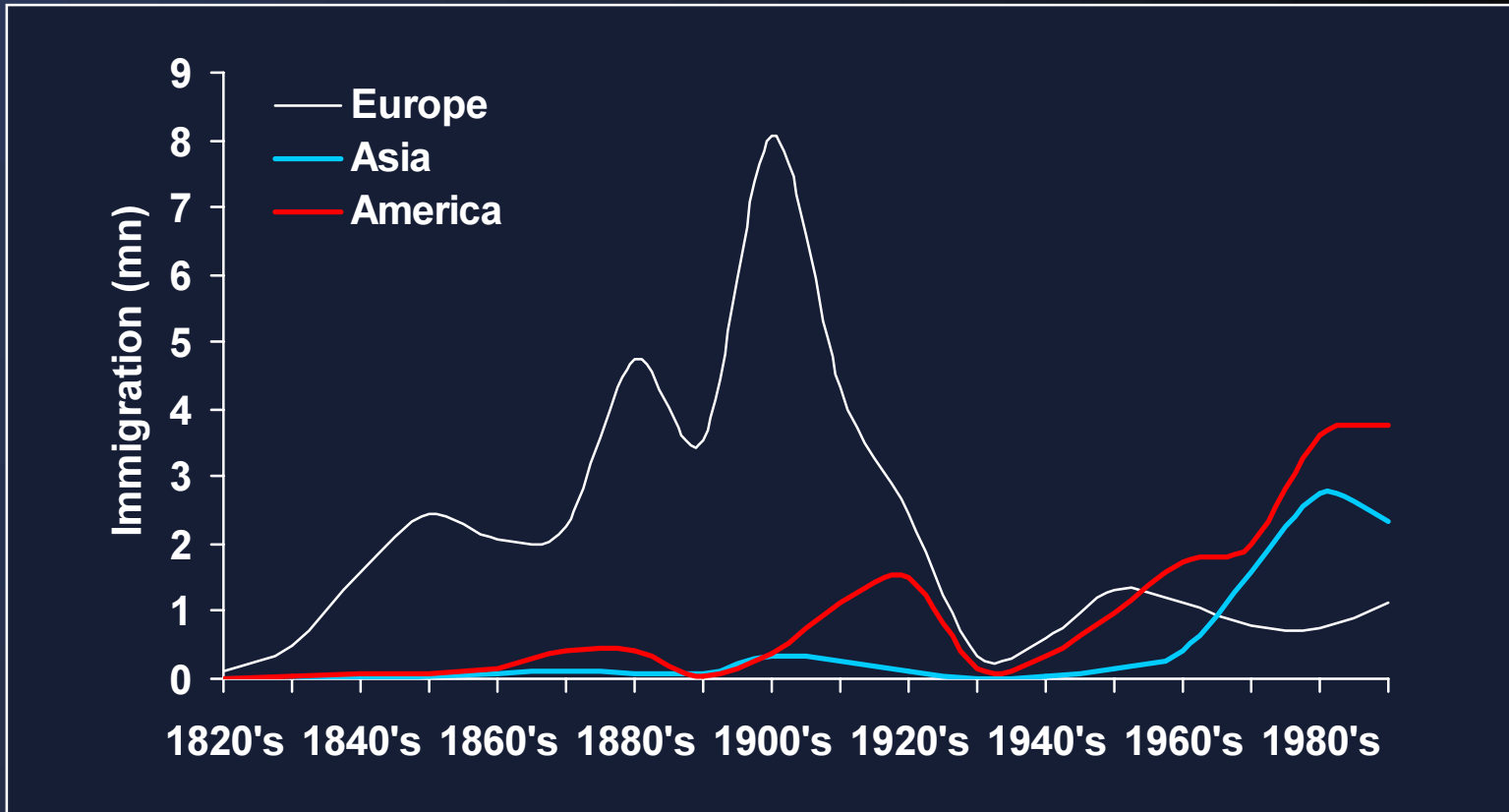
CONTRACEPTIVE USE AMONGST MARRIED WOMEN OF REPRODUCTIVE AGE



Source: Levels & Trends of Contraceptive Use 1998 (UN Population Division)

IMMIGRANTS BY CONTINENT BY DECADE

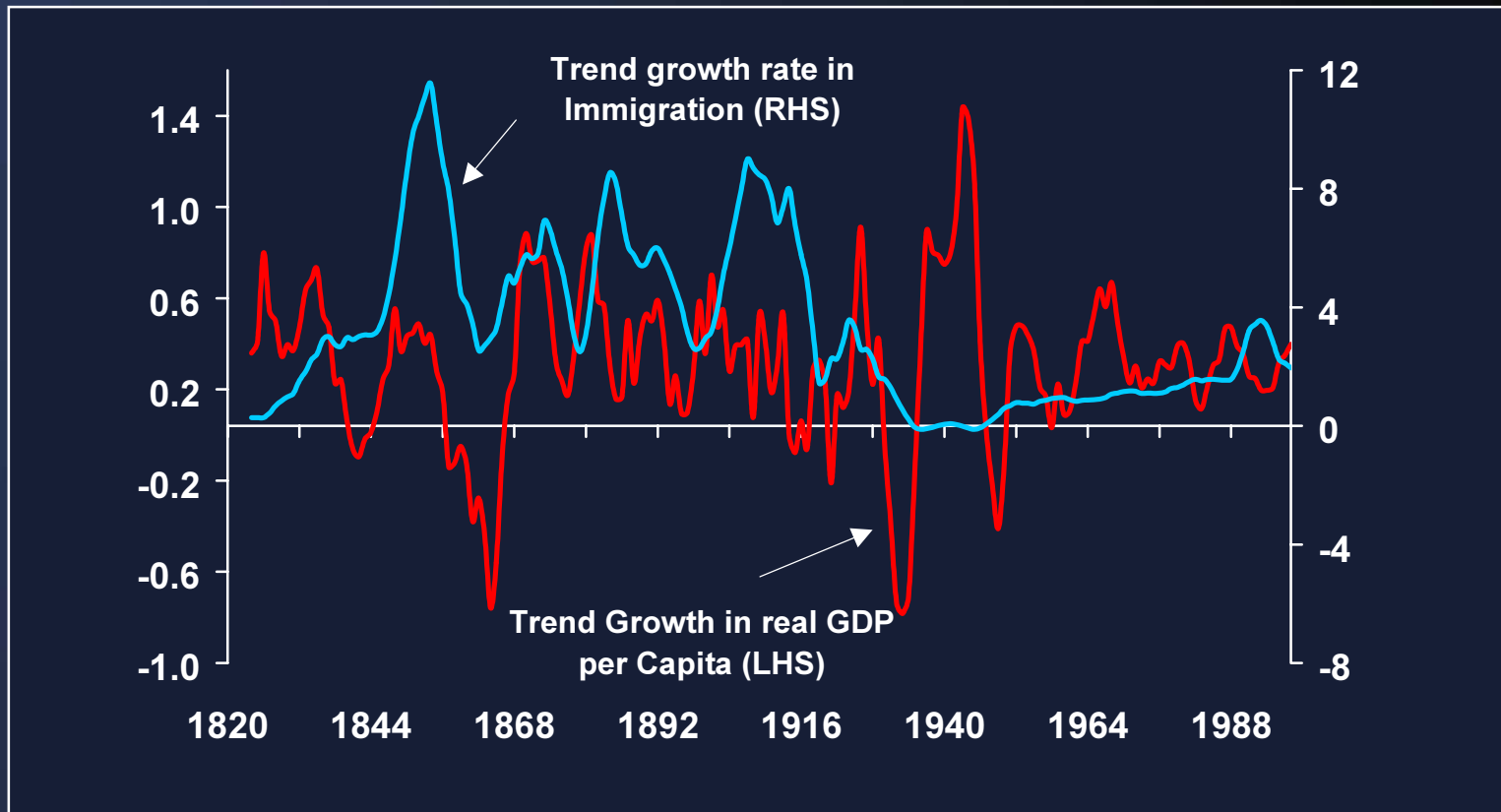
US: CHANGES IN IMMIGRATION PATTERNS
Immigrants by continents by decades (in millions)



Source: INS Statistical Yearbook

IMMIGRATION & PROSPERITY: LINKS

US: REAL GDP PER CAPITA GROWTH RATE &
IMMIGRATION GROWTH RATE TRENDS



Source: INS Statistical Yearbook

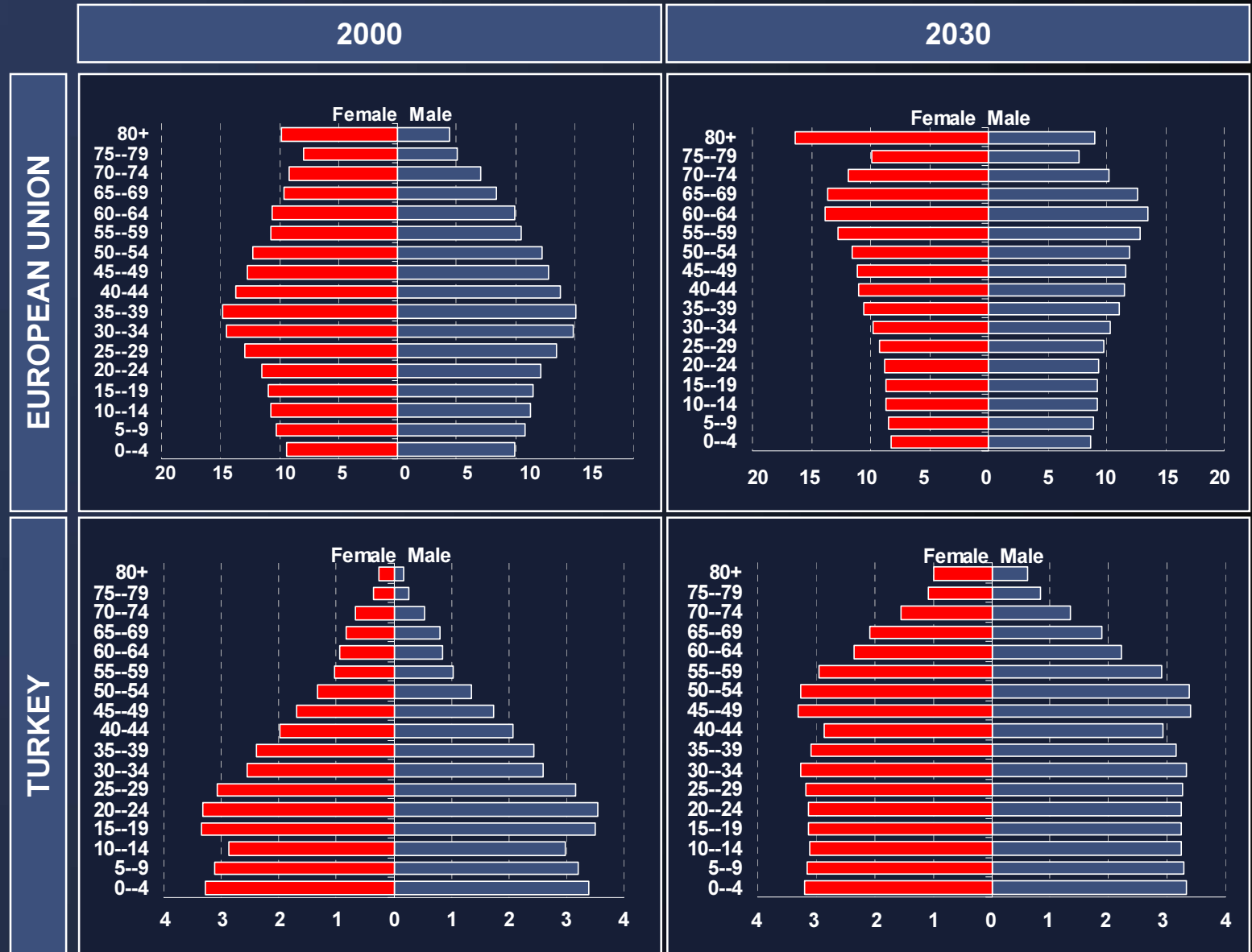
MEXICO & US: COMPLEMENTARY DEMOGRAPHICS



Source: UN World Population Data Base

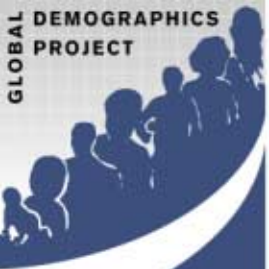
Note: Population numbers are in millions

TURKEY & EU: COMPLEMENTARY DEMOGRAPHICS



Source: UN World Population Data Base

Note: Population numbers are in millions



CSFB's CONCLUSIONS: MACRO ECONOMIC & INVESTMENT IMPLICATIONS

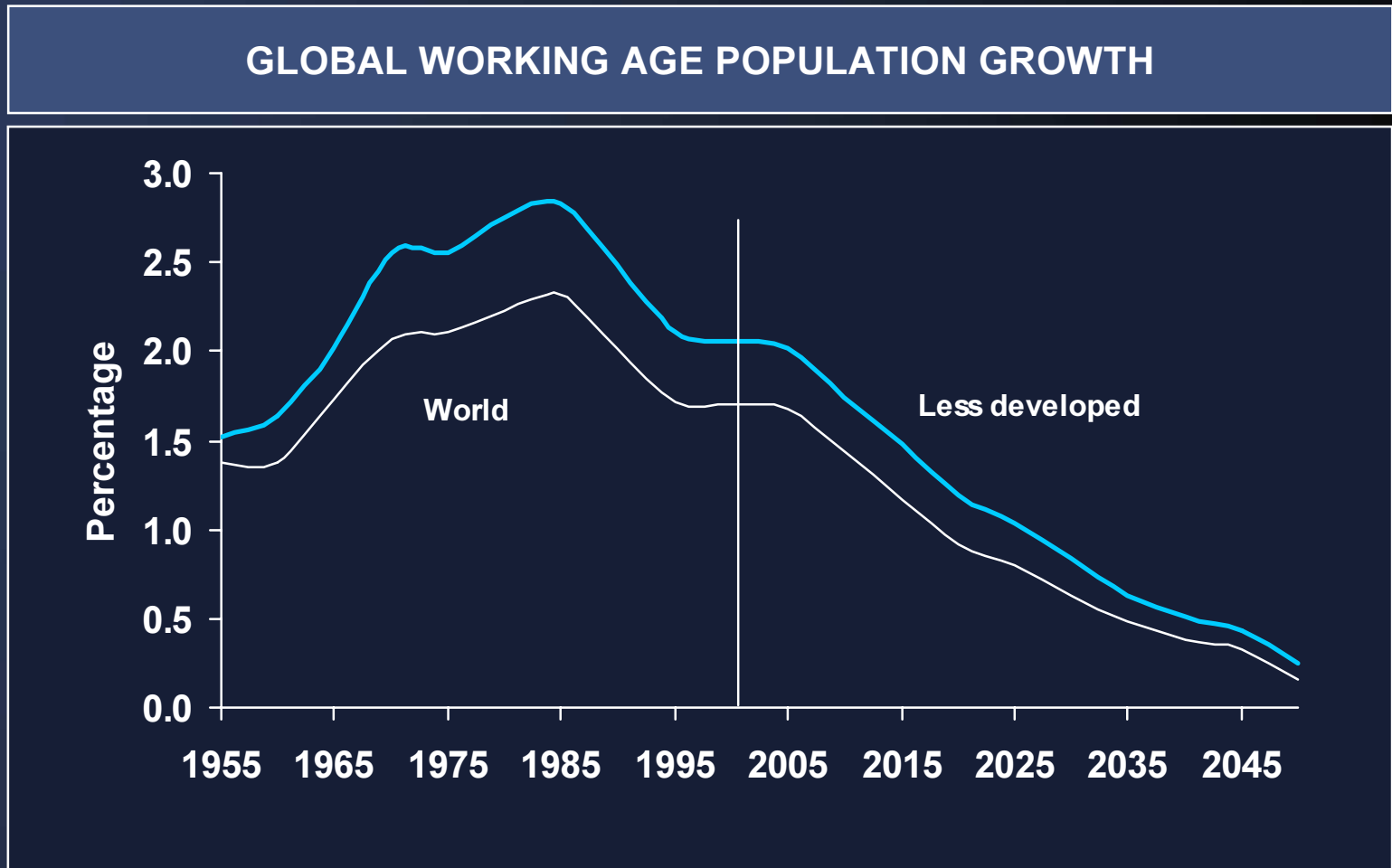
- Secular bull market in disinflation and interest rates
- Nominal top line growth for the “average” company remains low
- The investment mantra will be the global search for risk-adjusted total return
- Stronger US\$ versus the Euro



CSFB's CONCLUSIONS: INDUSTRY & SECTOR IMPLICATIONS

- Positive for “Experiences” which are Composite services including recreation and leisure consumption of an aging baby boom
- Positive for Health Care, Biotechnology and Financial Services
- Negative for toys and the producers in “middle” of industries (growing consolidation within sectors)
- Difficult environment in developed countries for goods consumption. Positive for advertising and promotion

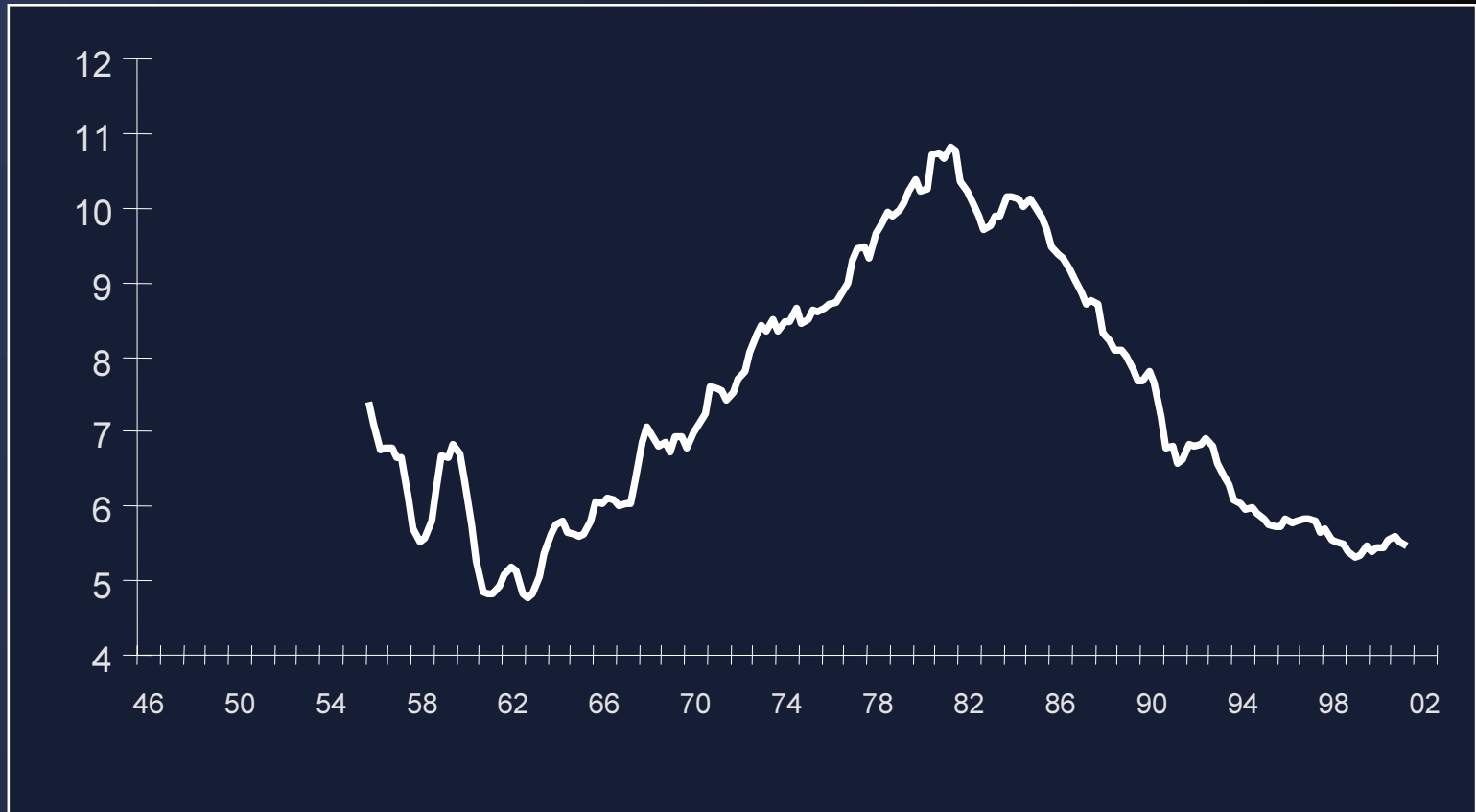
DECLINING WORKING AGE POPULATION GROWTH



Source: UN World Population Database

US: SMOOTHED GDP

SMOOTHED GROWTH IN CURRENT DOLLAR GDP
annual rate of change same quarter 10-years ago

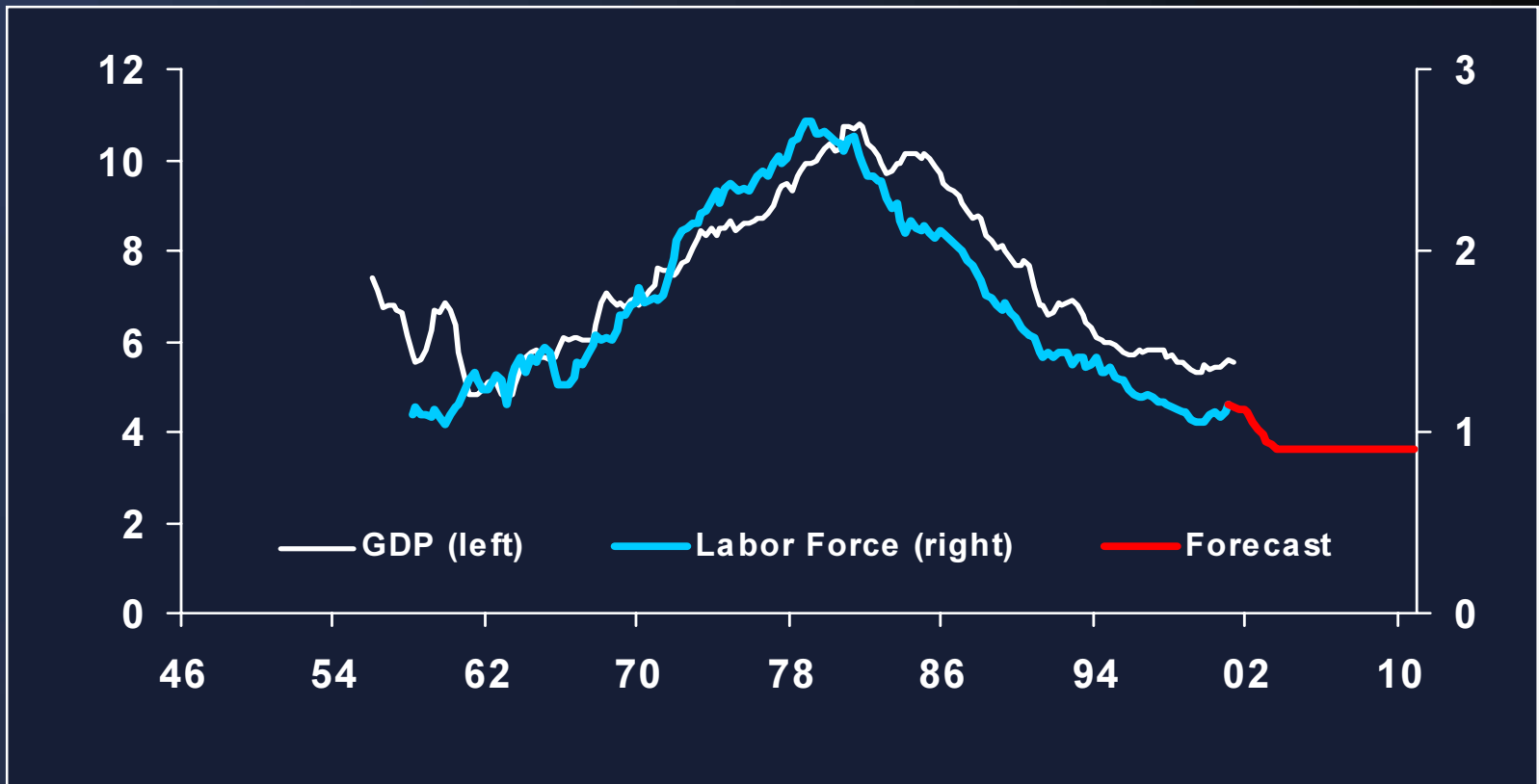


Source: U.S. Dept. of Commerce, CSFB

based on quarterly data through 2001:2

CSFB CONCLUSIONS: US: SLOWER NOMINAL GROWTH AHEAD

SMOOTHED GROWTH IN NOMINAL GDP & FORECASTED LABOUR FORCE
annual rate of change same quarter 10-years ago

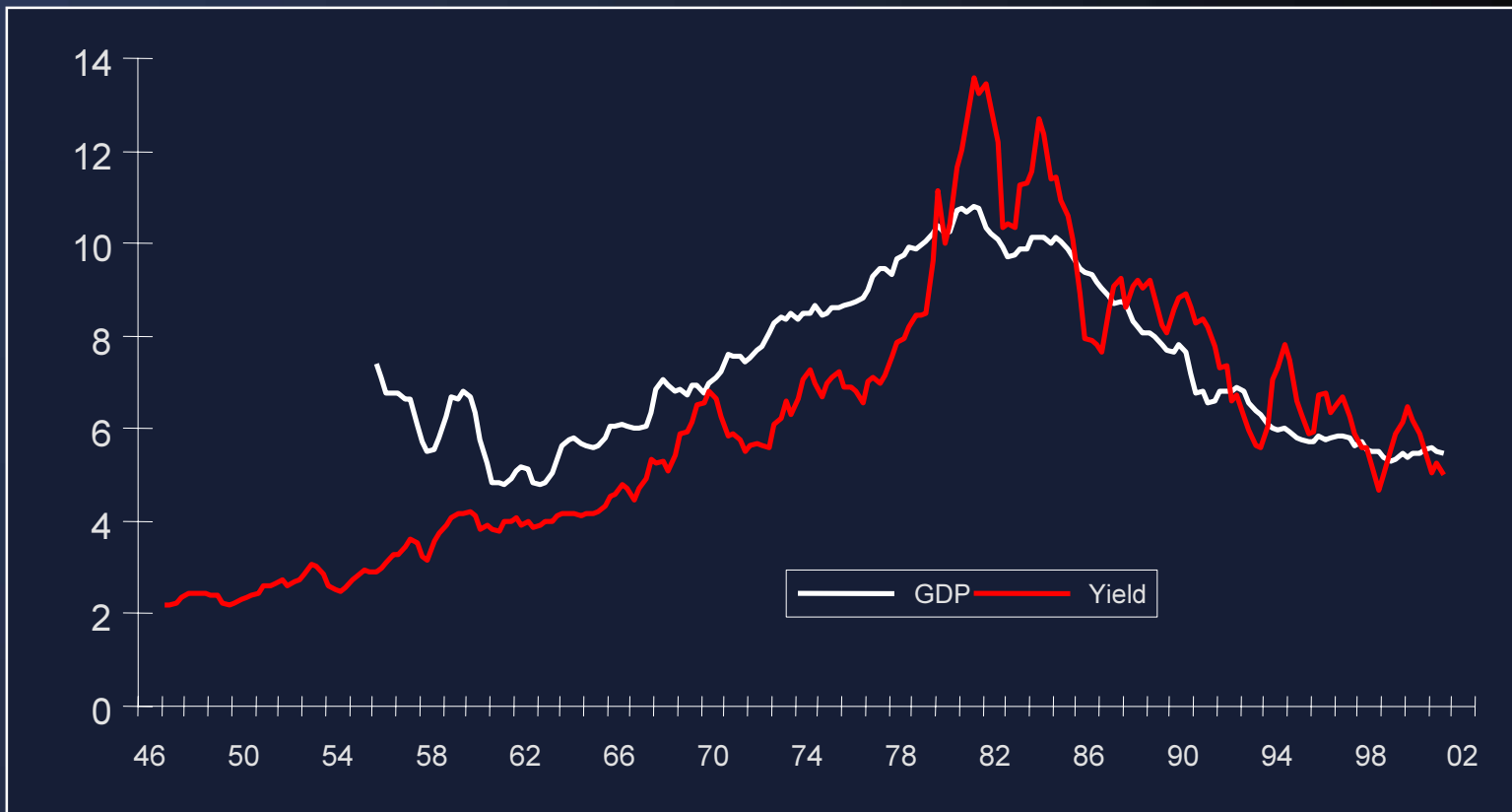


Source: U.S. Dept. of Commerce; BLS; CSFB

Based on quarterly data through 2001:2

US: LONG-TERM INTEREST RATES PERSPECTIVE

YIELD ON LONG-TERM TREASURIES VERSUS
SMOOTHED GROWTH IN NOMINAL GDP

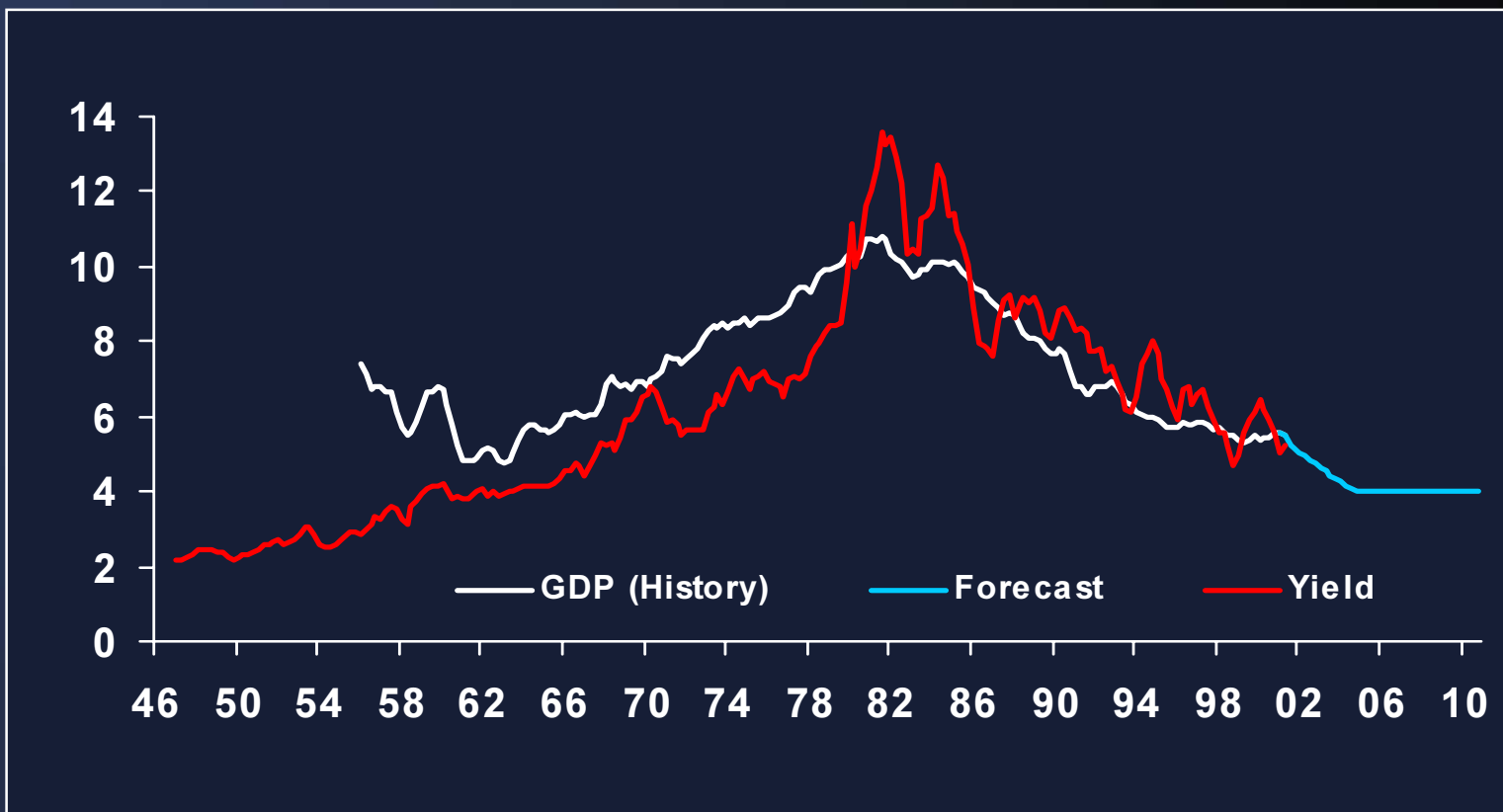


Source: U.S. Dept. of Commerce; FRB; CSFB

Based on quarterly data through 2001:2

CSFB CONCLUSIONS: US: LOWER LONG-TERM INTEREST RATES AHEAD

YIELD ON LONG-TERM TREASURIES VERSUS HISTORICAL & FORECASTED SMOOTHED GROWTH IN NOMINAL GDP

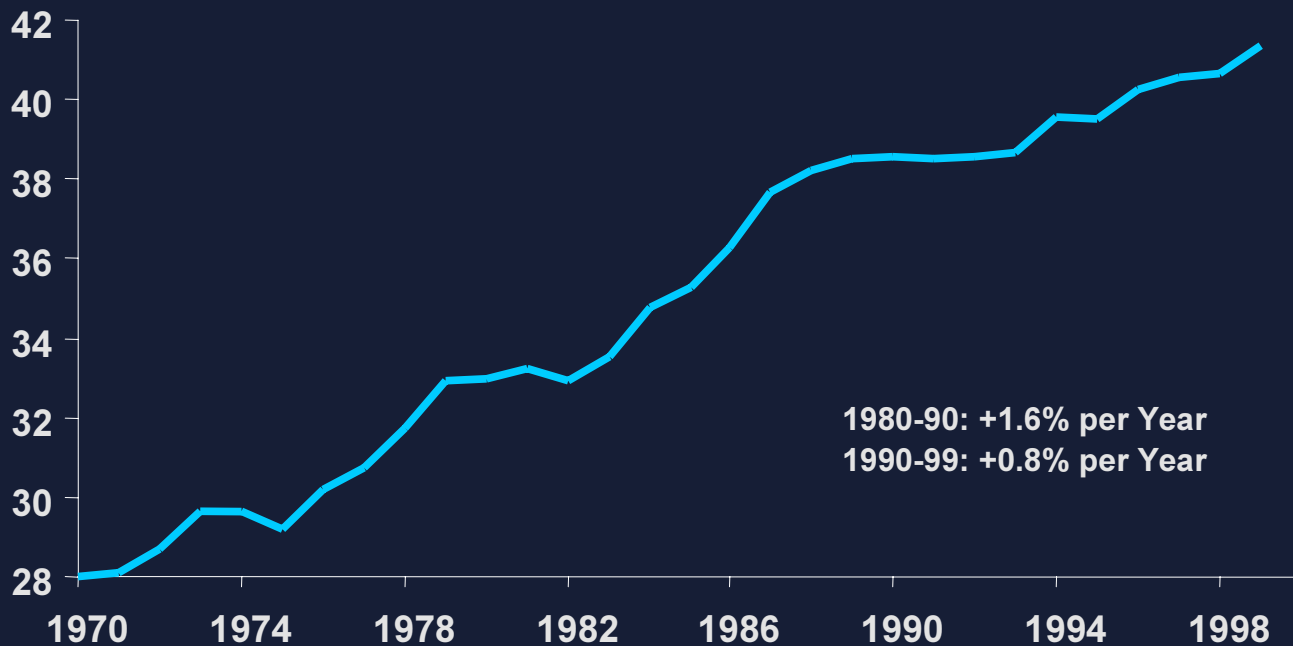


Source: U.S. Dept. of Commerce; FRB; CSFB

Based on quarterly data through 2001:2

US: HOUSEHOLDS WITH MORE MONEY THAN TIME

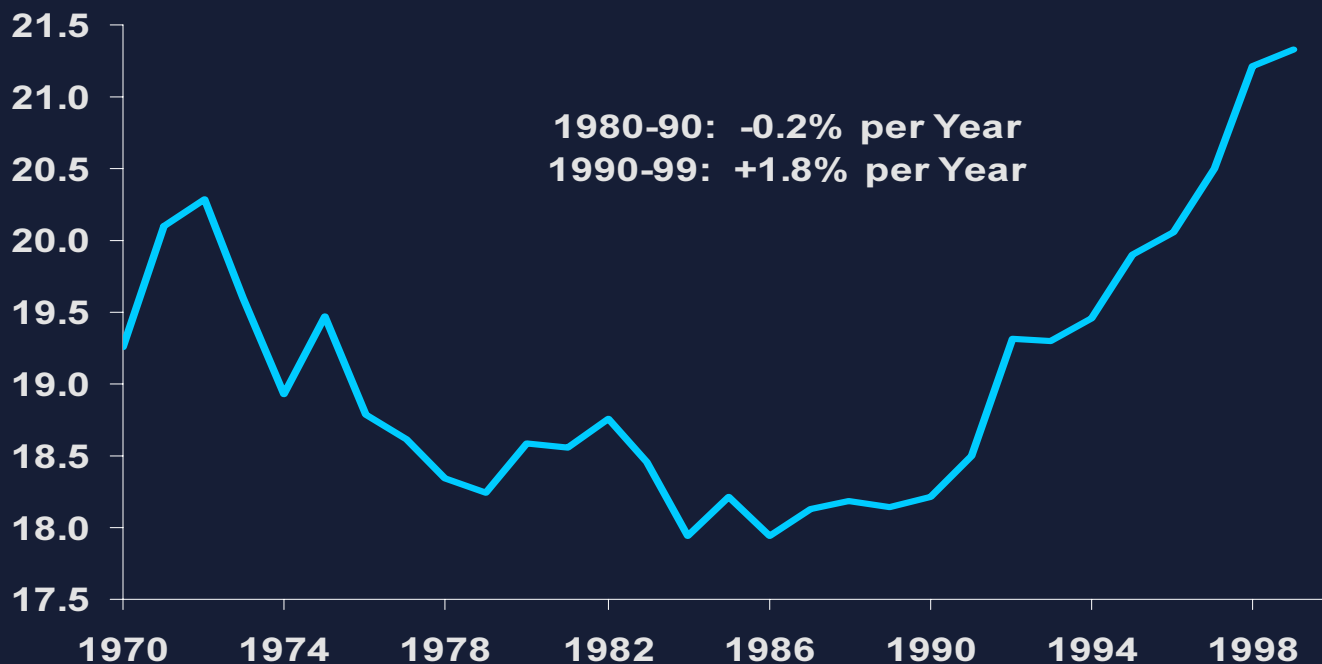
NUMBER OF US FAMILIES WITH TWO OR MORE EARNERS
(millions)



Source: U.S. Census Bureau, CSFB

US: HOUSEHOLDS WITH MORE TIME THAN MONEY

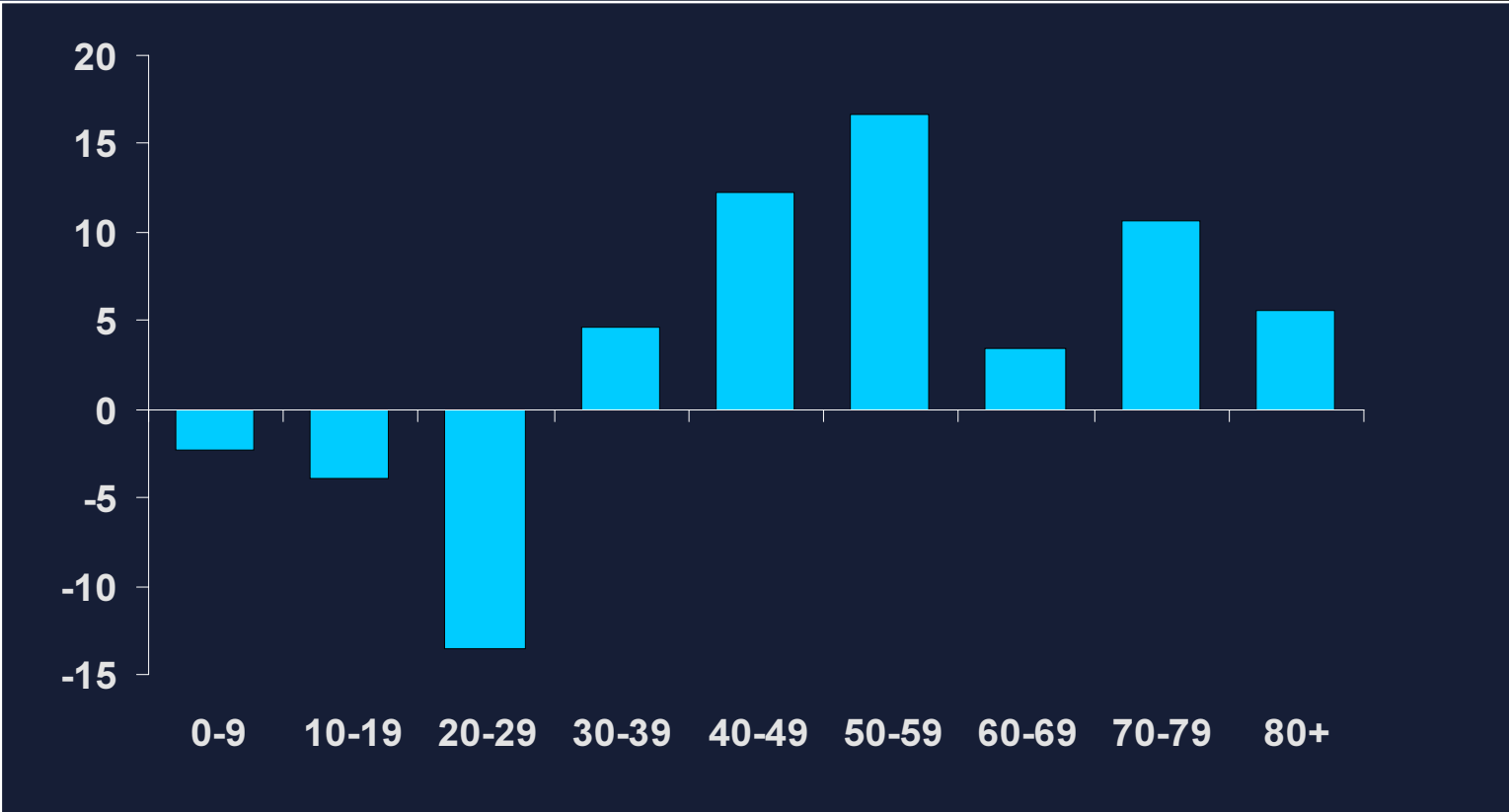
NUMBER OF US FAMILIES WITH ONE EARNER
(millions)



Source: U.S. Census Bureau, CSFB

DEVELOPED COUNTRIES

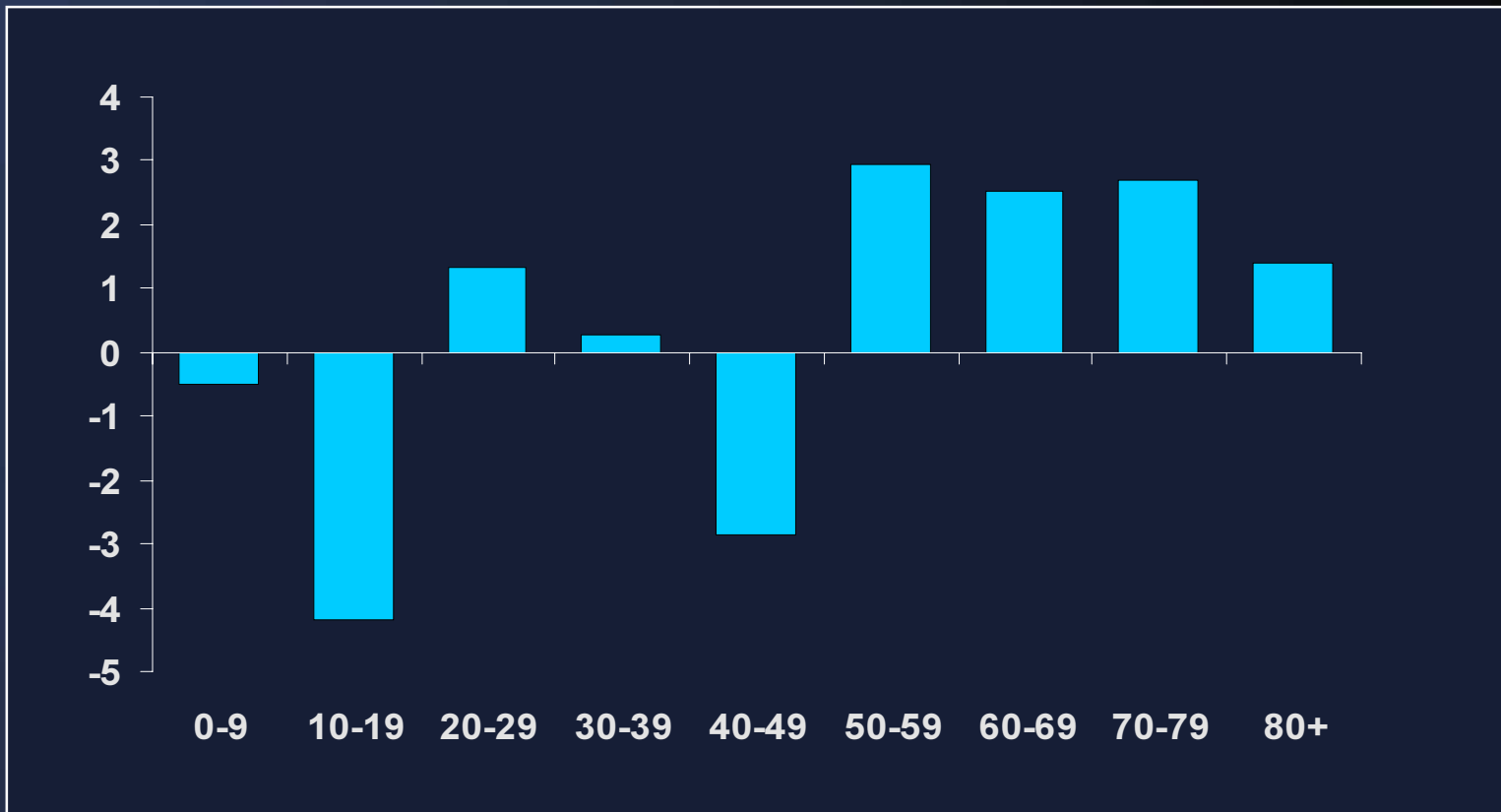
POPULATION CHANGE BY AGE GROUPS: 1991-2000
(millions)



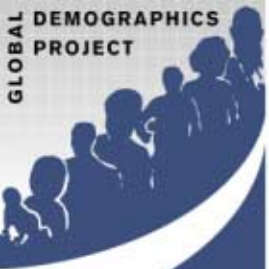
Source: U.S. Census Bureau, CSFB

JAPAN

POPULATION CHANGE BY AGE GROUPS: 1991-2000
(millions)



Source: U.S. Census Bureau, CSFB



Demographics & Social Change

Some demographic acronyms exemplify changing society

- VUMMIES

- DINK, OINK, DINKLIS

- ORCHID, TRIFFID, TINKER

- SINBAD

- NIKE

- POSSLQ

SAMPLE APPLICATION OF DATABASE

MOBILE PHONES (PER 1000 IN 1998):

Hong Kong: 475 China: 19 India: 1.22

PASSENGER CARS (PER 1000):

Hong Kong: 57 (1998) China: 3 (1996) India: 2 (1996)

POPULATION ESTIMATES (IN 000S) FOR 2005:

Hong Kong: 7321.108 China: 1326439 India: 1087459

Source: World Development Indicators 2000, UN Population Database, CSFB

SAMPLE APPLICATION OF DATABASE (contd)

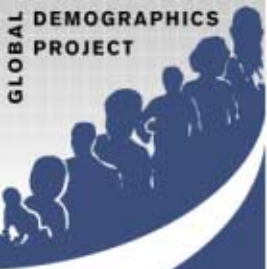
PASSENGER CAR DEMAND (2005) IN 000S.

	HONG KONG	CHINA	INDIA
0% Growth	417	3,979	2,175
5% Growth	438	4,178	2,284
10% Growth	501	4,775	2,610

MOBILE PHONE DEMAND (2005) IN 000S.

	HONG KONG	CHINA	INDIA
0% Growth	3,478	25,202	1,327
5% Growth	3,651	26,462	1,393
10% Growth	4,173	30,243	1,592

Source: World Development Indicators 2000, UN Population Database, CSFB



EUROPEAN DEMOGRAPHICS: CABLE TV, INTERNET & PERSONAL COMPUTER USAGE

CABLE TELEVISION SUBSCRIBERS (assuming 1999 per capita values)

	2000	2005	2010
Belgium	3755.6	3759.2	3746.2
Denmark	1325.8	1334.4	1334.4
France	N/A	N/A	N/A
Germany	18604.6	18637.4	18562.0
Italy	N/A	N/A	N/A
Netherlands	6114.5	6175.0	6186.9
Spain	527.1	524.9	519.9
Sweden	3182.2	3215.1	3228.2
UK	3096.9	3113.3	3123.2

INTERNET USERS (assuming 1999 per capita values)

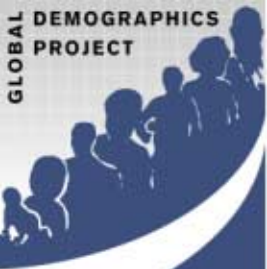
Belgium	14225.6	14239.1	14190.0
Denmark	7939.9	7991.3	7991.1
France	317258.0	321798.7	325405.9
Germany	1183975.1	1186062.3	1181264.8
Italy	401088.7	397456.7	390471.8
Netherlands	47357.1	47826.0	47918.2
Spain	184357.7	183613.8	181843.3
Sweden	12714.9	12846.2	12898.8
UK	735377.0	739290.6	741643.6

PERSONAL COMPUTERS (assuming 1999 per capita values)

Belgium	3202.8	3205.8	3194.8
Denmark	2191.4	2205.6	2205.6
France	13103.9	13291.4	13440.4
Germany	24419.5	24462.5	24363.6
Italy	10989.8	10890.3	10698.9
Netherlands	5681.3	5737.5	5748.6
Spain	4731.8	4712.7	4667.3
Sweden	4115.6	4158.1	4175.1
UK	17796.1	17890.8	17947.8

Source: UN World Database and World Development Indicators, World Bank

Note: all numbers are in thousands



EUROPEAN DEMOGRAPHICS: CABLE TV, INTERNET & PERSONAL COMPUTER USAGE

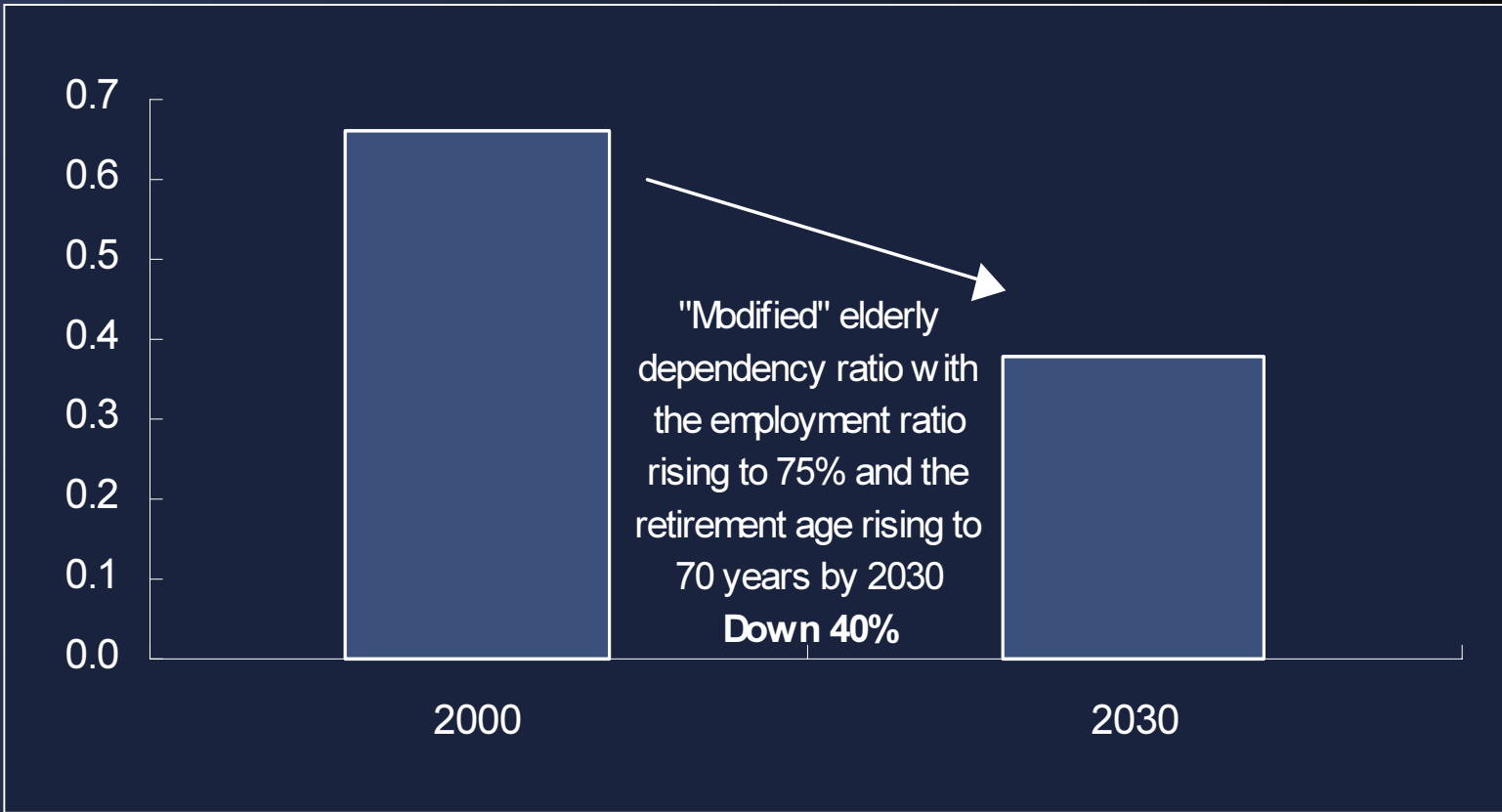
CABLE TELEVISION SUBSCRIBERS (5% growth over 1999)			CABLE TELEVISION SUBSCRIBERS (10% growth over 1999)		
	2005	2010		2005	2010
Belgium	3947.2	3933.5	Belgium	4135.1	4120.9
Denmark	1401.1	1401.1	Denmark	1467.8	1467.8
France	0.0	0.0	France	0.0	0.0
Germany	19569.3	19490.2	Germany	20501.2	20418.3
Italy	0.0	0.0	Italy	0.0	0.0
Netherlands	6483.8	6496.3	Netherlands	6792.5	6805.6
Spain	551.2	545.9	Spain	577.4	571.9
Sweden	3375.8	3389.7	Sweden	3536.6	3551.1
UK	3269.0	3279.4	UK	3424.7	3435.6
INTERNET USERS (assuming 5% growth over 1999)			INTERNET USERS (assuming 10% growth over 1999)		
Belgium	14951.1	14899.5	Belgium	15663.1	15609.0
Denmark	8390.9	8390.7	Denmark	8790.4	8790.3
France	337888.6	341676.1	France	353978.5	357946.4
Germany	1245365.4	1240328.1	Germany	1304668.5	1299391.3
Italy	417329.5	409995.4	Italy	437202.4	429518.9
Netherlands	50217.3	50314.1	Netherlands	52608.6	52710.0
Spain	192794.5	190935.5	Spain	201975.2	200027.7
Sweden	13488.5	13543.7	Sweden	14130.8	14188.6
UK	776255.1	778725.8	UK	813219.6	815807.9
PERSONAL COMPUTERS (5% growth over 1999)			PERSONAL COMPUTERS (10% growth over 1999)		
Belgium	3366.1	3354.5	Belgium	3526.4	3514.2
Denmark	2315.9	2315.8	Denmark	2426.2	2426.1
France	13956.0	14112.4	France	14620.6	14784.5
Germany	25685.7	25581.8	Germany	26908.8	26799.9
Italy	11434.8	11233.9	Italy	11979.3	11768.8
Netherlands	6024.4	6036.0	Netherlands	6311.3	6323.4
Spain	4948.3	4900.6	Spain	5184.0	5134.0
Sweden	4366.0	4383.9	Sweden	4573.9	4592.7
UK	18785.4	18845.2	UK	19679.9	19742.6

Source: UN World Database and World Development Indicators, World Bank

Note: all numbers are in thousands

EUROPE: RE-CENTRING THE DEBATE ON PENSIONS

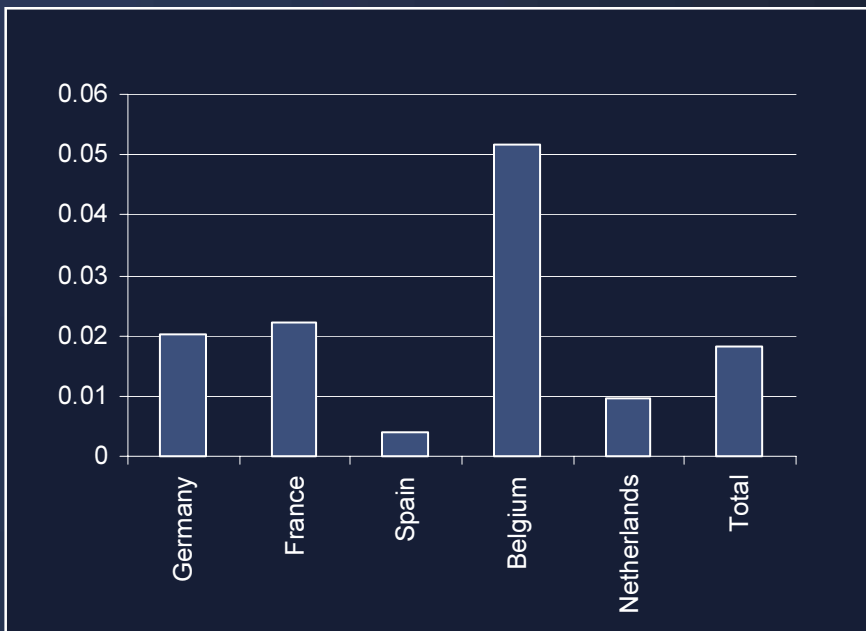
THE ELDERLY DEPENDENCY RATIO MIGHT NOT RISE AT ALL



Source: CSFB Forecasts

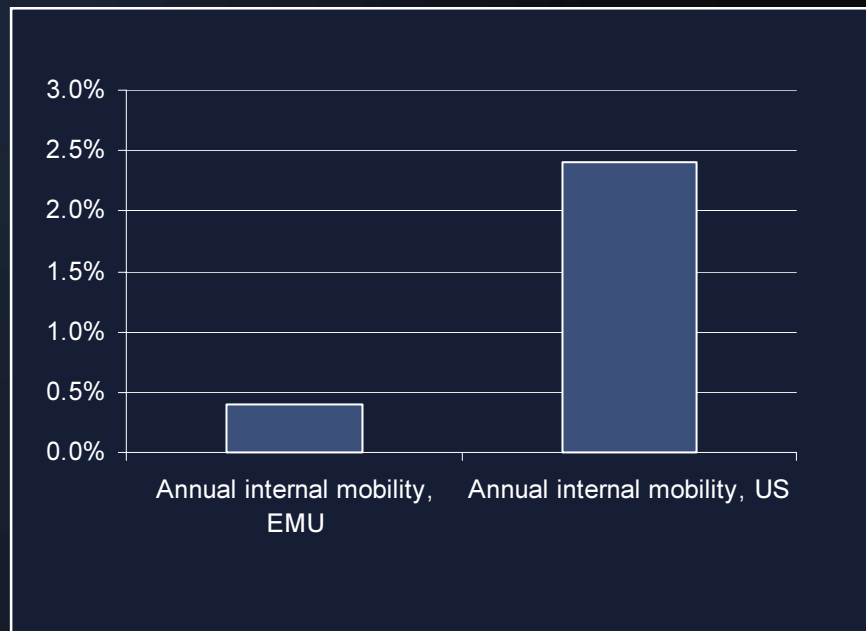
ENHANCING LABOUR MOBILITY: A CHALLENGE FOR THE EURO AREA

NON-NATIONAL EMU CITIZENS AS % OF TOTAL POPULATION (1997) IN...



Source: Eurostat, CSFB

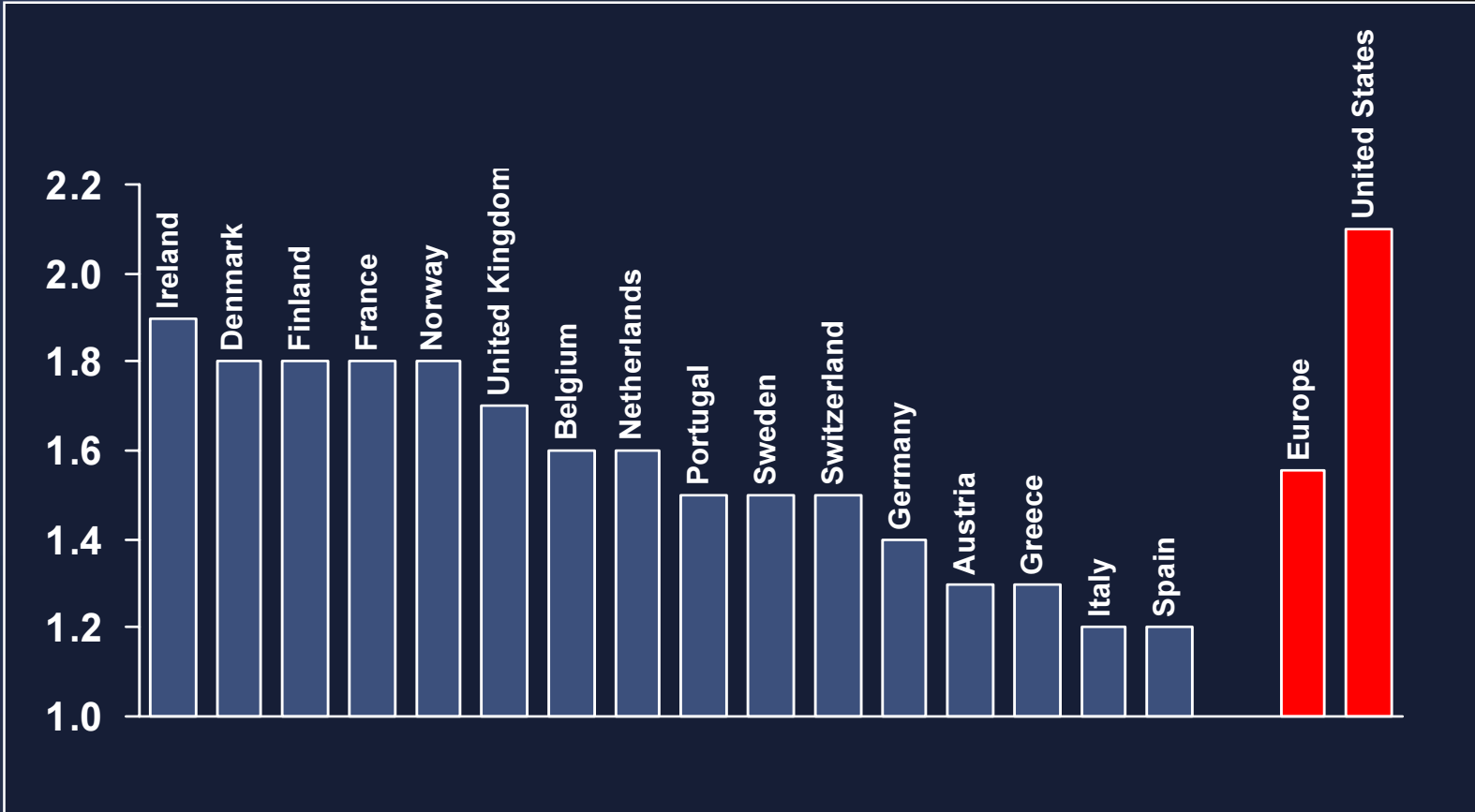
INTERNAL MOBILITY



Source: OECD, CSFB

EUROPEAN FERTILITY RATES

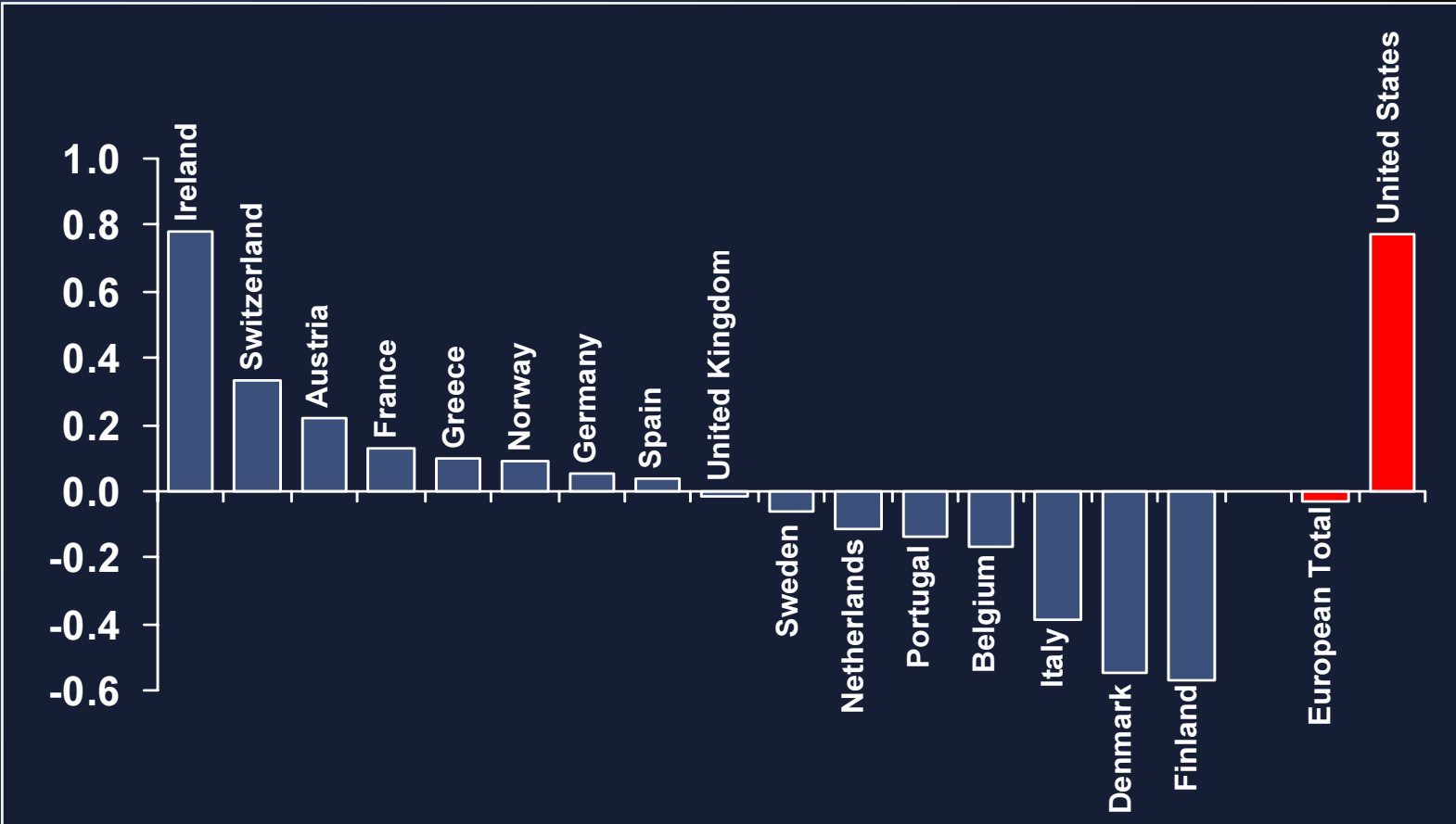
FERTILITY RATE: 1999



Source: World Development Indicators 2001, CSFB

EUROPE REFERENCE BOOK HIGHLIGHTS

LABOR FORCE AVERAGE ANNUAL GROWTH RATE: 2000-2010
(forecast)



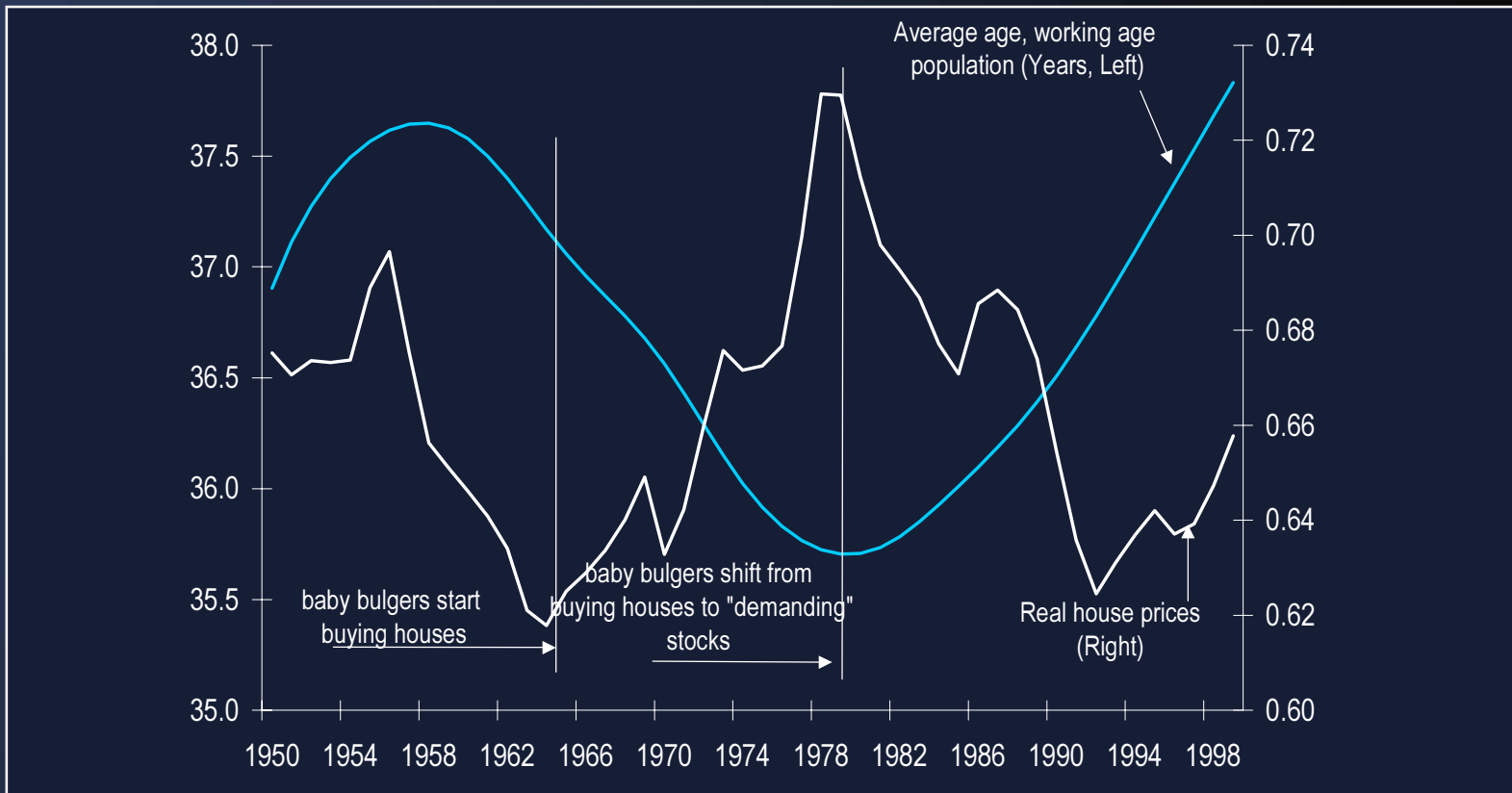
Source: International Labor Office, CSFB

BABY BULGE AND US ASSET MARKETS

- Our US Economists find that the “baby bulgers” (born 1935 or soon after) have impacted asset prices
- In mid 1960s, they started buying real estate
- In early 1980s they began to accumulate financial assets
- Now is another important phase in their life-cycle as they approach retirement:
- Will they re-weight their portfolios in favour of bonds? Who will buy the stocks they sell and how many of the young will buy?

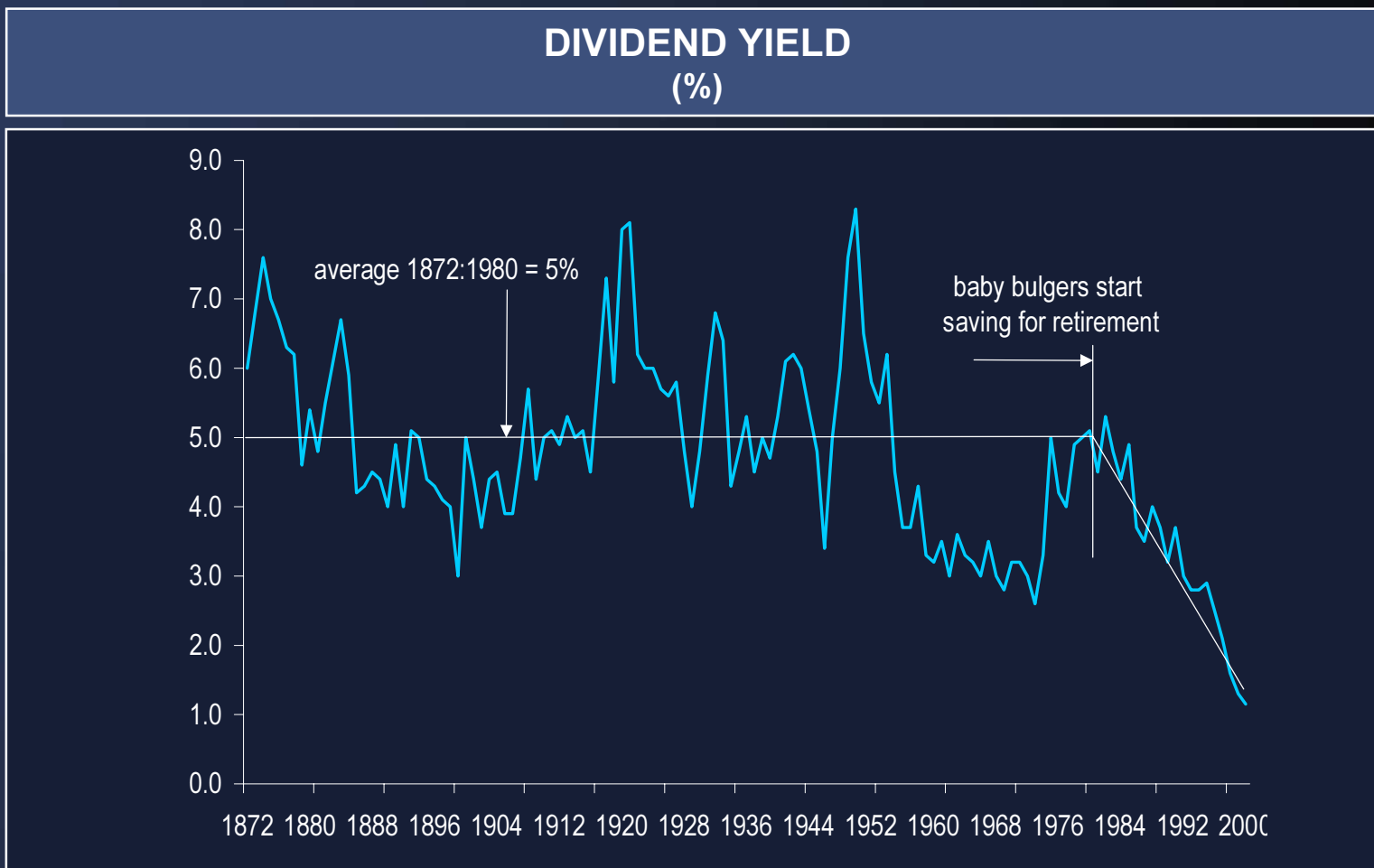
REAL ESTATE PRICES & BABY BULGER DEMAND

RESIDENTIAL REAL ESTATE PRICES & FLUCTUATING BABY BULGER DEMAND real house prices versus average age of the working population

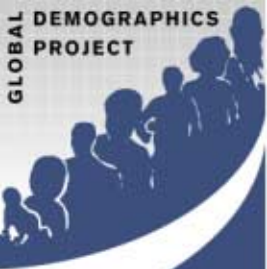


Source: BEA, BLA. Real house prices are calculated by deflating the residential investment deflator by the CPI, CSFB

BABY BULGERS HAVE NOT WANTED DIVIDENDS



Source: Ibbotson Associates, See US Economics Digest of August 20, 2000, CSFB



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