

Why Global Demographics matter for Investments?

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DISCLOSURE APPENDIX AT THE BACK OF THIS REPORT CONTAINS IMPORTANT DISCLOSURES AND ANALYST CERTIFICATIONS.

Demographics is about “People as Consumers & Workers”

Peter Drucker (1999): “Demographics is the single most important factor that nobody pays attention to, and when they do pay attention, they miss the point.”

- D** • Discount rates, **Deficits and Debt**
- E** • **Economic growth**, **Emerging markets**
- M** • Mortality risk, Mega-cities
- O** • Organisation structure & behaviour
- G** • Geopolitical Risks
- R** • Retirement risk, **Real estate**, **Ratings**
- A** • **Asset prices**, **Asset allocation**
- P** • **Pensions**
- H** • **Health**, **Housing**
- I** • **Inflation**, Infrastructure, Individuals
- C** • Commodities, **Current account**
- S** • **Sectors**, Society, **Sustainability**

Popular misconceptions

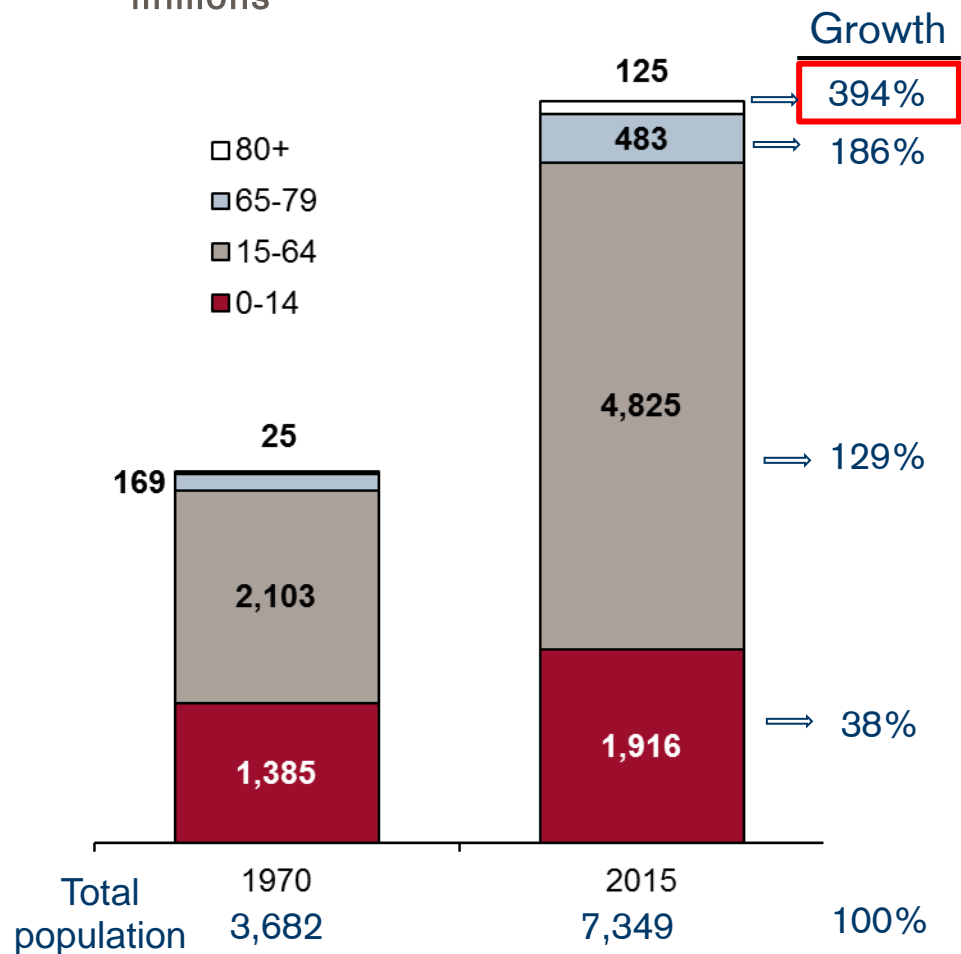
1. Demographics is Long-term
2. Age-related
3. Predictable

It affects
**income statements and
balance sheets**
of
**households, corporates
and countries.**

The Growth of the Super-old (80+ years): a new challenge

World Population Change: 1970 vs. 2015

millions



Share of 60+ population

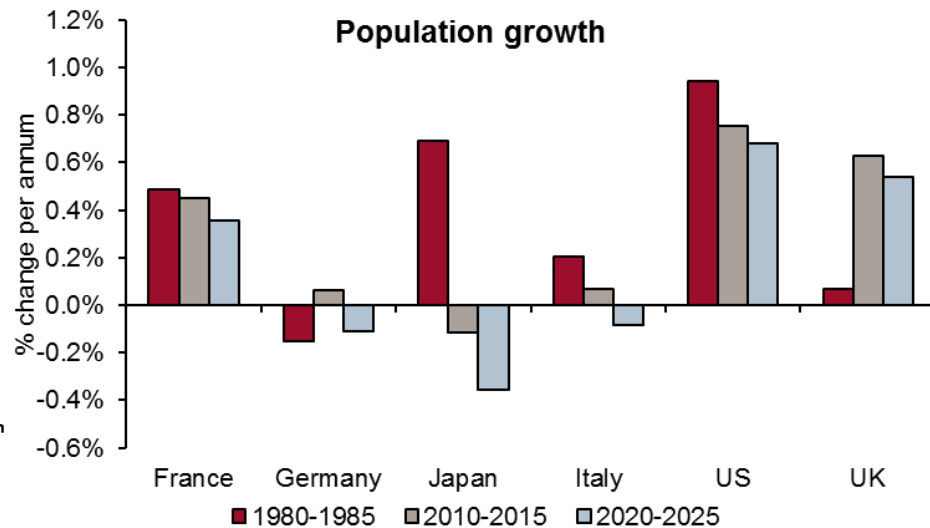
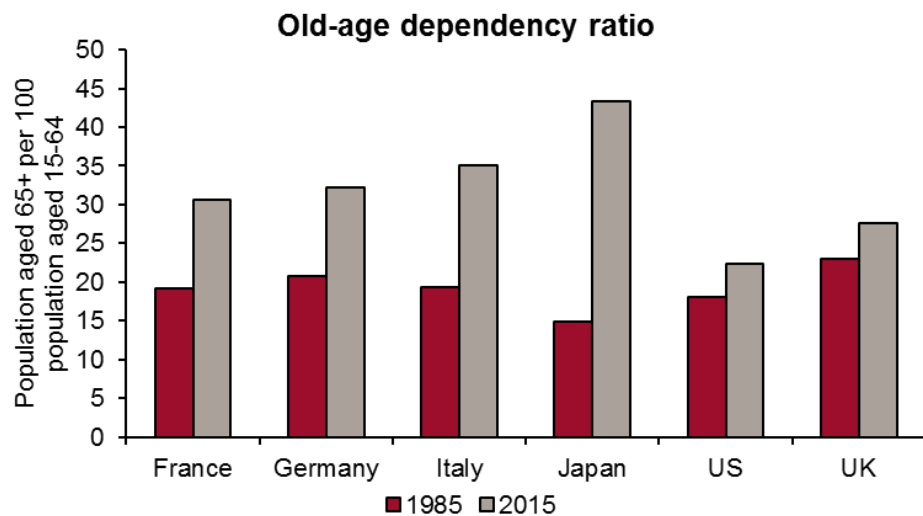
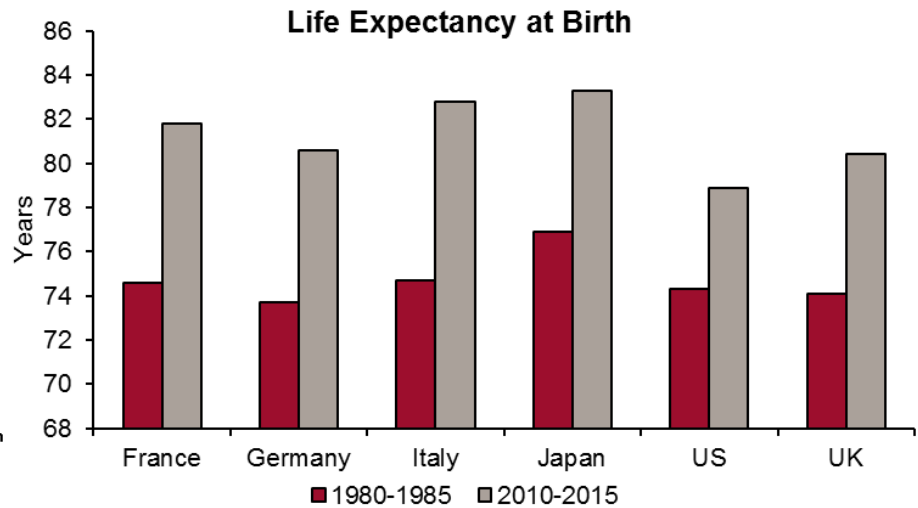
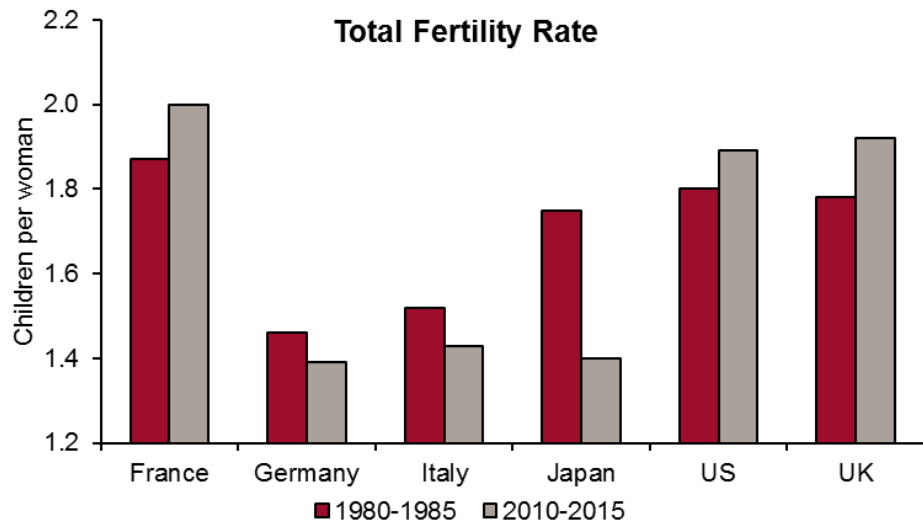
	1970	2015
UK	19%	23%
US	14%	21%
Germany	20%	28%
Japan	11%	33%
France	18%	25%
Italy	16%	29%

Share of 80+ population

	1970	2015
UK	2%	5%
US	2%	4%
Germany	2%	6%
Japan	1%	8%
France	2%	6%
Italy	2%	7%

Source: UN, Credit Suisse Demographics Research

Core demographics of G6 countries: not uniform, not v similar



Source: UN, Credit Suisse Demographics Research

The Demographic Manifesto (2000): need for policy actions

Policy prescriptions for the mitigation of the demographics time-bomb by aging advanced countries

Abolition of mandatory retirement ages combined with flexible enabled retirement

Increased female labour participation rates with use of technology to facilitate women to better balance work and family

Outsourcing and off-shoring

Selective immigration policies

Retirement ages: effective & official

	Men		Women	
	Effective 2007-2012	Official 2012	Effective 2007-2012	Official 2012
Mexico	72.3	65	68.7	65
Korea	71.1	60	69.8	60
Chile	69.4	65	70.4	60
Japan	69.1	65	66.7	65
Portugal	68.4	65	66.4	65
New Zealand	66.7	65	66.3	65
Switzerland	66.1	65	63.9	64
Sweden	66.1	65	64.2	65
US	65.0	66	65.0	66
Norway	64.8	67	64.3	67
Canada	63.8	65	62.5	65
UK	63.7	65	63.2	61.2
Netherlands	63.6	65	62.3	65
Denmark	63.4	65	61.9	65
Turkey	62.8	60	*63.6	58
Spain	62.3	65	63.2	65
Germany	62.1	65.1	61.6	65
Greece	61.9	65	60.3	63.5
Finland	61.8	65	61.6	65
Italy	61.1	66	60.5	62
France	59.7	65	60.0	65

*Grey cells: effective retirement age > official retirement age

Source: UN, OECD, Credit Suisse Demographics Research

How Increasing Longevity Affects Us All? Opportunities but challenges too

Individual & families

- Challenge existing asset & time allocation frameworks & intergenerational dynamics

Governments & Societies

- Policy changes in labour, education, health, pensions & social benefits necessary

Asset managers, pension funds, insurance cos., SWFs.

- Re-assess frameworks & assumptions. Develop new solutions for clients & new approaches to understanding longevity

Significant change in thinking and mind-set needed

Source: Credit Suisse Demographics Research, IPE Pension awards key note speech (Noordwijk, 2013)

Demographic Drivers of Real GDP Growth: G6 advanced countries

Working-age Population Growth

working-age population =
population aged 15-64

Labour Productivity Growth

labour productivity = real GDP/
hours worked

Labour Utilisation Growth

labour utilisation = hours
worked/working-age population

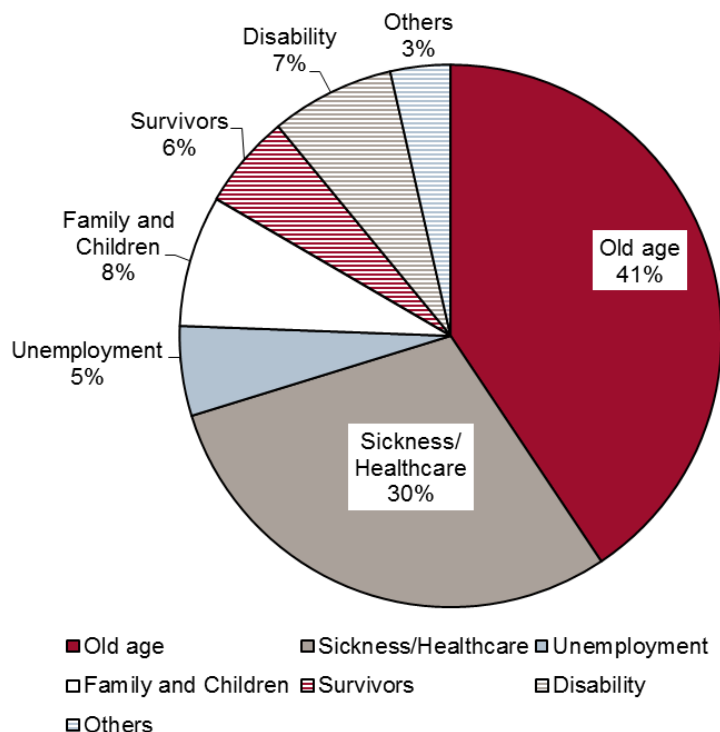


Source: UN, GGDC, Credit Suisse Demographics Research

Demographics & Fiscal Strains: Age-related expenditures

Social benefits by function, EU28, 2012

% of total benefits



Age-related expenditure (% of GDP)

		Pension	Health care	Long term care
Japan	2012	11.2	7.3	1.8
	2025	9.9	8.7	2.7
UK	2013	7.7	7.8	1.2
	2060	8.4	9.1	1.5
Germany	2013	10	7.6	1.4
	2060	12.7	8.2	2.9
EU28	2013	11.3	6.9	1.6
	2060	11.2	7.8	2.7
		Social Security Major Health Programs*		
US	2014	4.9	4.8	
	2024	5.6	6.1	

* includes Medicare, Medicaid, children health insurance programs and subsidies offered through health insurance exchanges and related spending

The fiscal gap* in the US in 2012 was \$222 trillion, according to Kotlikoff.

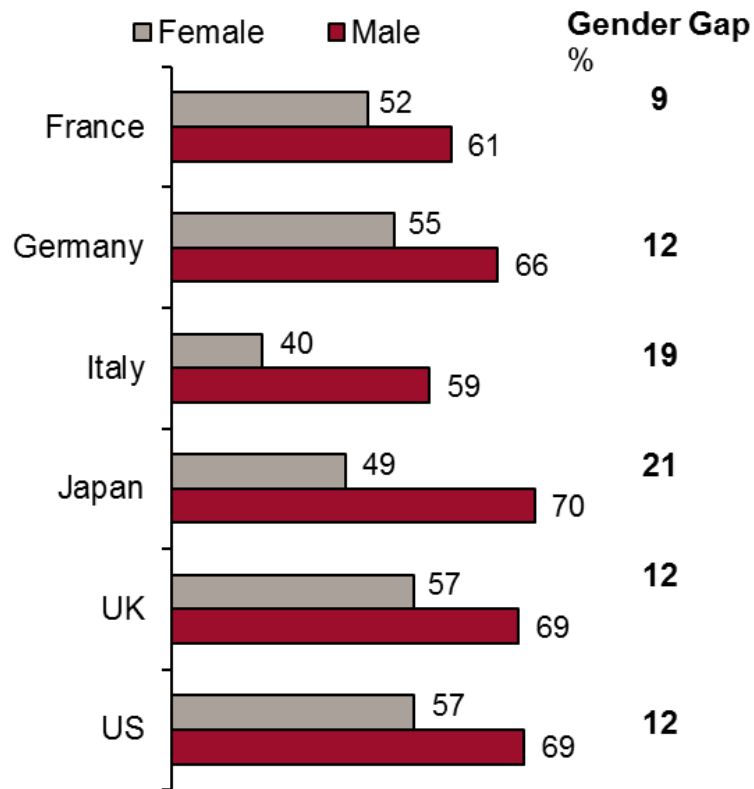
*PV difference between projected future spending including official debt service and projected future taxes.

Source: EC, Eurostat, CBO, PBS Larry Kotlikoff interview (27 Feb 2013)

Economic Activity Rates, Men vs. Women

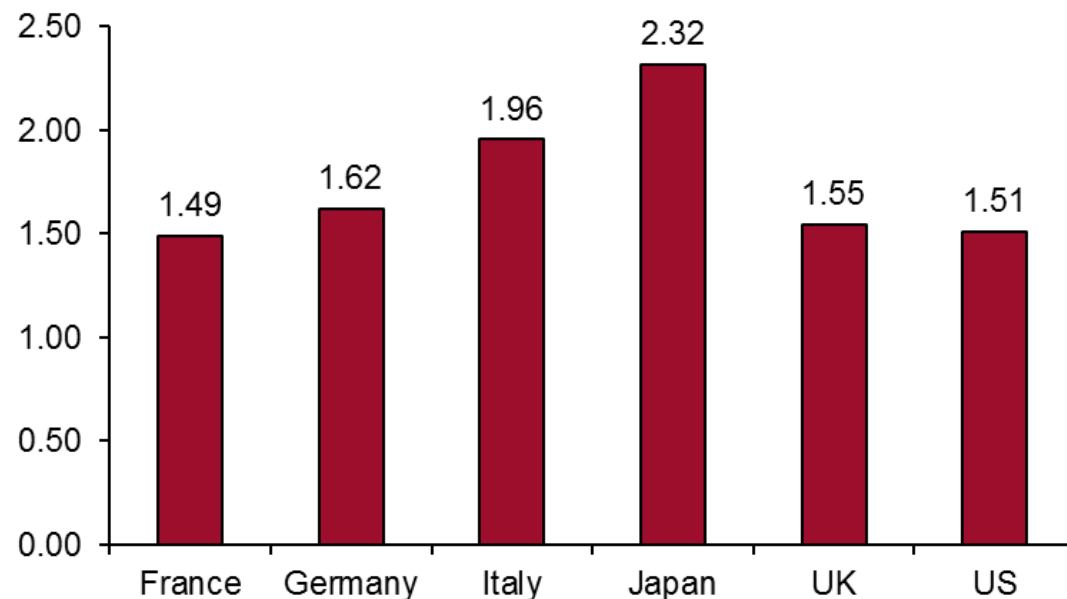
Labour force participation rate, in percentage

G6, 2014



Income multiples of men over women, 2013

Income measure: GNI per capita in US\$, constant 2011 PPP



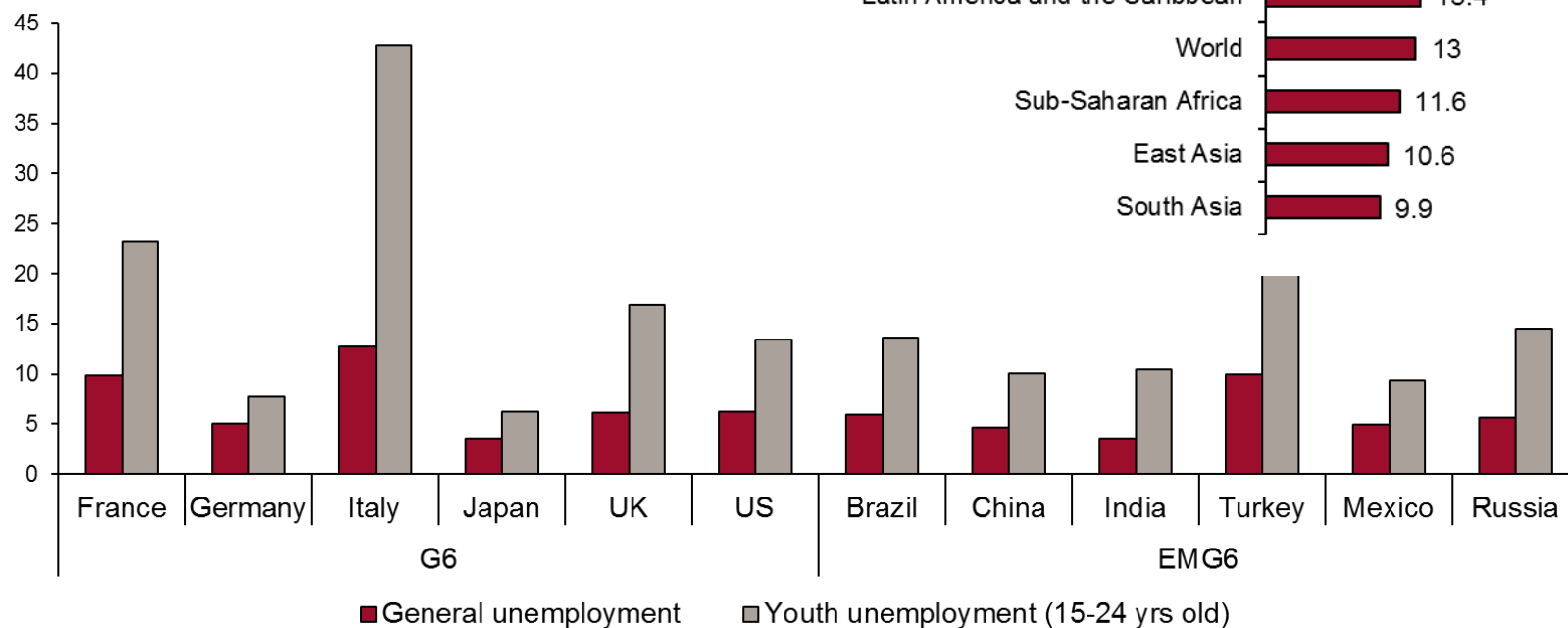
Source: ILO, World Bank, Credit Suisse Demographics Research

Rising Youth Unemployment

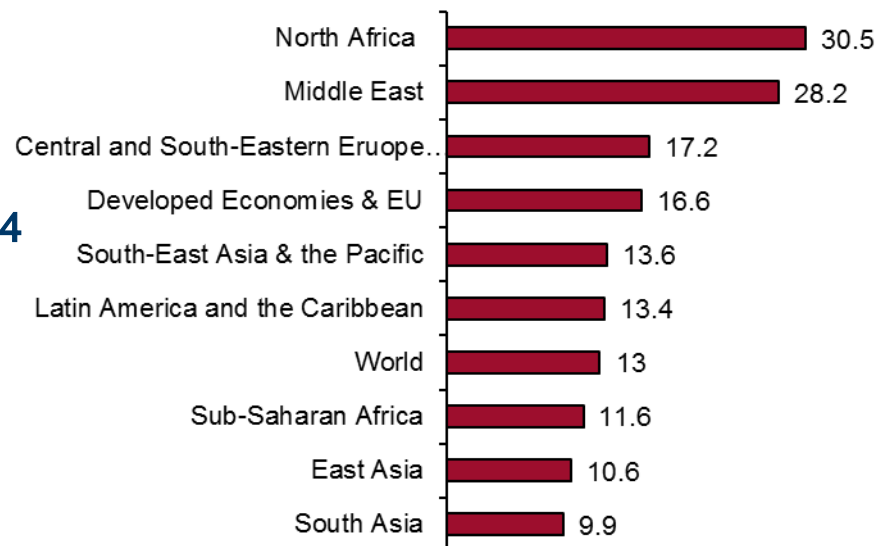
	1991	2000	2014
Global youth unemployment rate (%)	11.9	12.8	13.0

Youth unemployment (%) in G6 & EMG6, 2014

*data for EMG6 is from 2013



Youth unemployment by region (%), 2014



Source: OECD, ILO, Credit Suisse Demographics Research

China – labour mobility, migration, urbanisation, consumers

Hukou Reform

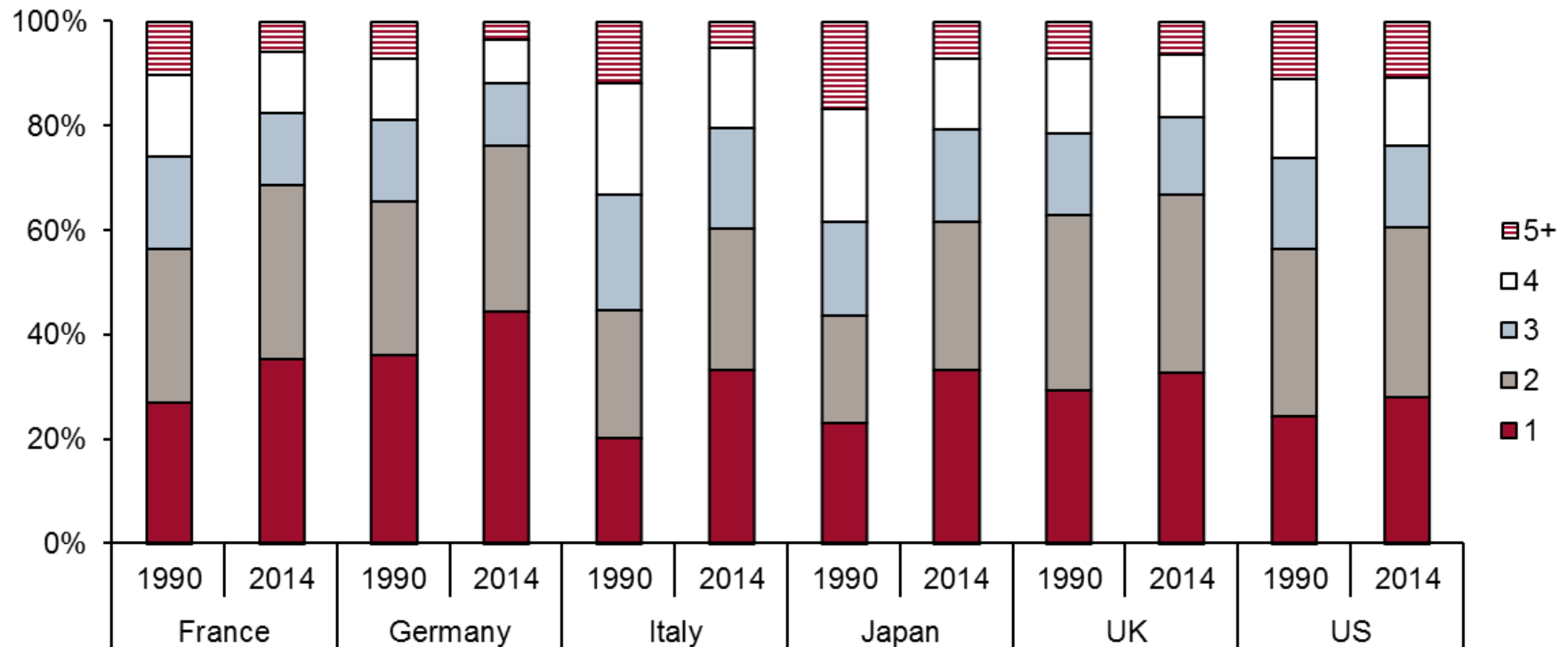
- Rural vs. urban Hukou holders differ in consumption patterns largely due to differences in (i) access to education (ii) health care (iii) housing and (iv) social benefits
- Cost of conversion per Hukou is 80,000 RMB per person
- Issue is which of the govts bears the cost? National, city, municipal, provincial or local.

People-Centred Urbanisation				
Type of cities	Size of cities	Number / world total	Measures	Notes
Towns and small cities	<0.5 mn	-	Full removal of hukou restrictions	Only migrants with legal and stable work and accommodation
Mid-sized cities	0.5 – 1 mn	156 / 538	Gradual ease of restrictions	Most dodgy government debts are in these cities - migration will impose additional strains on city finance
Big cities	1 – 5 mn	89 / 428	Reasonable conditions for settlement	
Mega-cities	> 5 mn	17 / 73	Strict control of population	Most new jobs are created in these cities

Source: NBS, IMF, The State Council, UN, Credit Suisse Demographics Research

Consumers: The Changing Family Structure (family size)

Share by household size (number of members in household) in percentage



Source: Euromonitor, Credit Suisse Demographics Research

Changing global consumers

Internet users

- Nationality, education and socio-economic groups are also major influencers of online internet use, not limited to age group

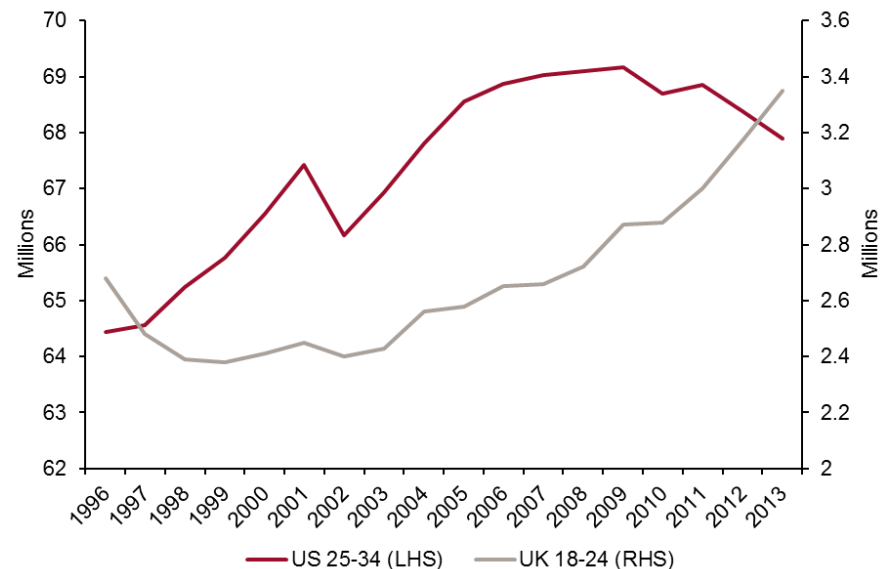
Internet users among 55-74 year-olds by educational attainment level, 2013

	55-74 year-olds	High attainment	Low attainment
	As a percentage of 55-74 year-olds in each educational attainment group		
UK	74.56	92.68	49.47
US	64.25	86.02	55.40
Germany	61.74	84.40	35.66
France	60.21	90.24	42.68
OECD	55.01	84.67	37.99

Young adults

- entering the workforce and start accumulating assets later
- Most likely live at their parents house until 28-30 years old
- Sharing economy

Young adults living with parents



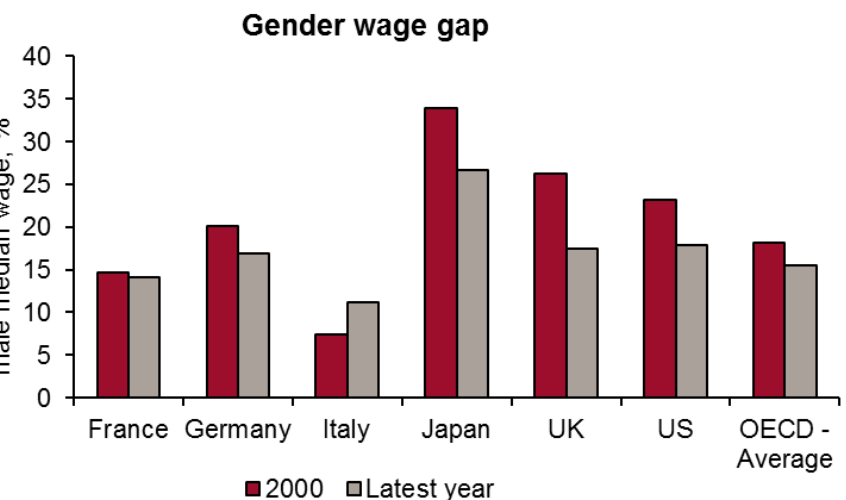
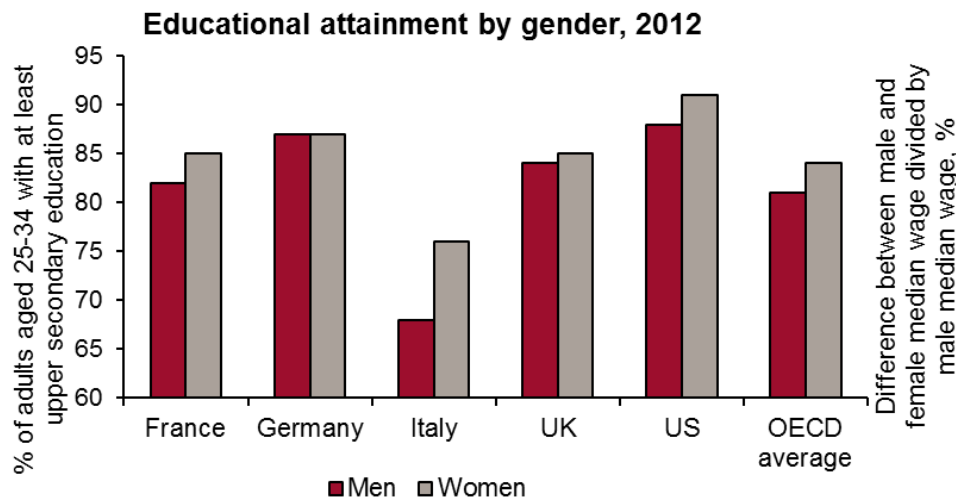
Source: OECD, ONS, US Census Bureau, Credit Suisse Demographic Research

Changing global consumers - Women

	Mean age at marriage		Mean age of childbearing	
	~1980	~2010	1980-1985	2010-2015
France	24.7	31.6	27.1	30.1
Germany	23.4	31.7	26.7	30.7
Japan	25.8	29.7	28.0	30.7
Italy	23.2	30.6	27.7	31.5
US	23.3	26.9	26.2	28.5
UK	23.0	31.8	27.2	29.8

Women are getting ...

- More educated, more likely to work, richer
- Married later, having children later
- Therefore, greater influence in family purchase decision



Source: OECD, UN, Credit Suisse Demographic Research

Key Sectors Impacted by Demographic Change

INFRASTRUCTURE

- Changing needs for infrastructure in developed world
- Mega-cities growing in the developing world
- Residential, manufacturing, transport, environmental considerations to name a few

NATURAL RESOURCES

- Changing manufacturing processes/locations
- Demands for new products very different from the demand for older products—derived demands too
- Increased demands for hard and soft commodities. Water/Drinking water supplies

LEISURE & LUXURY

- Work-Leisure trade-off changes for old as well as young.
- Wealth of retirees, ease of travel, ease of shopping
- Lower costs of communication, travel and insurance
- Information and Technology advances

EMERGING MARKETS

- Growing importance due to economic power
- Global labour force
- Global manufacturing locations
- Outsourcing
- Demand side

PHARMA & BIOTECH

- Longer post-retirement life of growing number of retirees.
- Desire of retirees to enjoy a good quality of life
- New pharma and biotech needed for mental health and new illness
- Genomics, pharma and biotech research need to find new cost-effective drugs and treatments

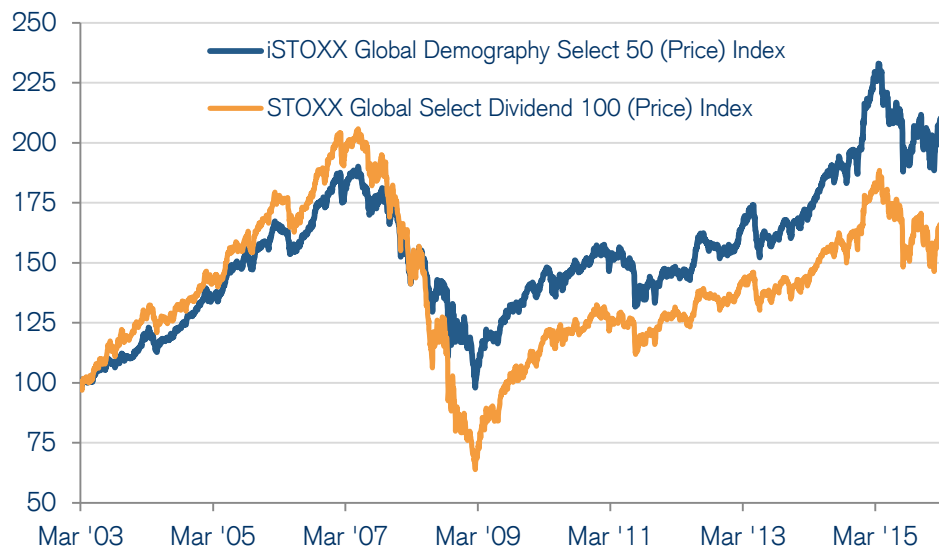
FINANCIAL SERVICES

- Active Asset allocation, New product development and Risk Management will be cornerstones
- DB to DC shifts
- Newer ways of delivering pensions and insurance
- Technology

“The reason these sectors are positively affected is not merely due to the fact that the number of people in the elderly population has increased, but also that the composition, family structure and behavioural characteristics of the elderly, as well as the young population, is vastly different compared to the past”

iSTOXX Global Demography Select 50 Index: **Performance Analysis**

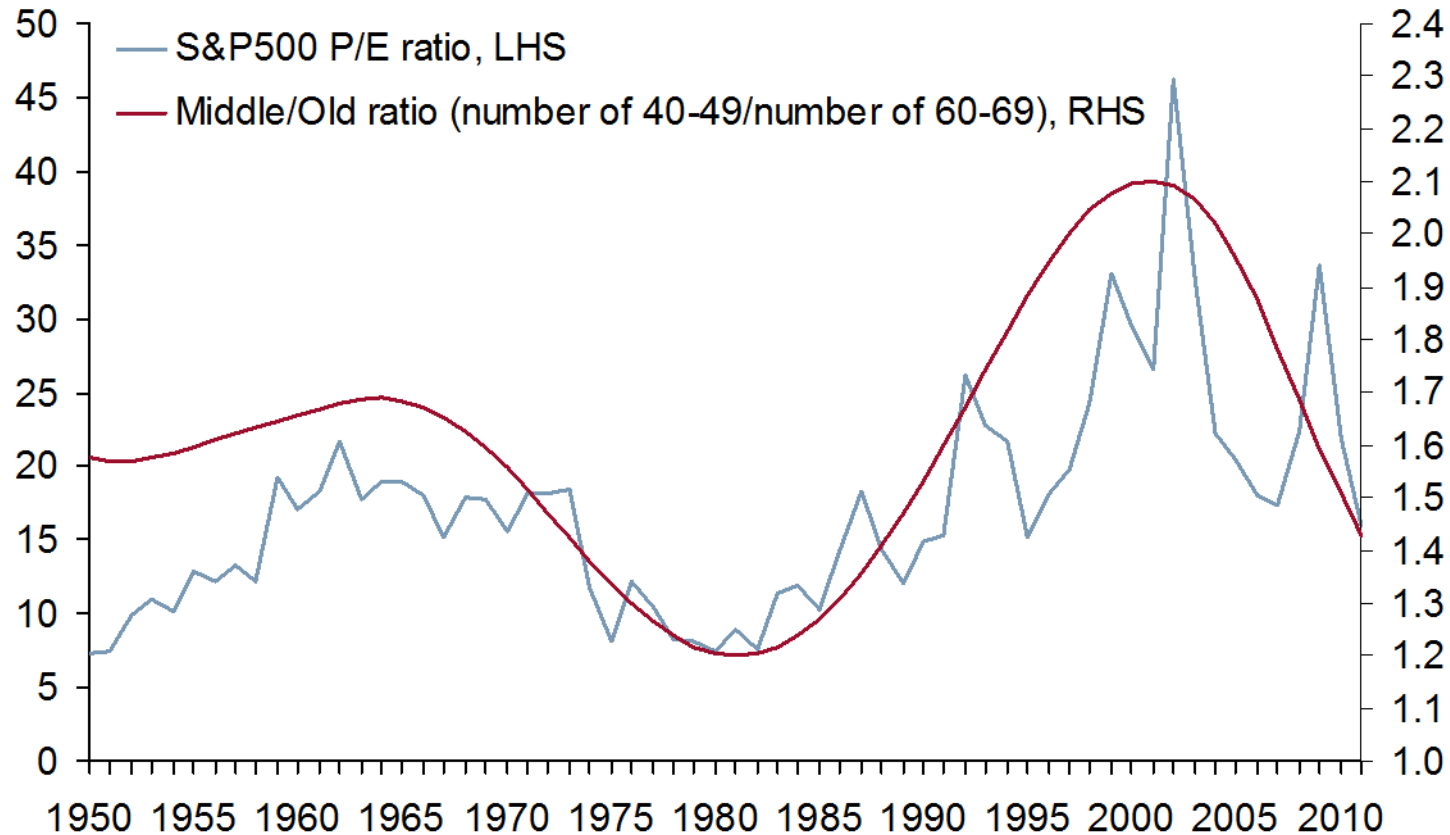
Price return since inception (EUR)



	iSTOXX Global Demography Select 50	STOXX Global Select Dividend 100
IRR since start	5.90%	4.00%
IRR last 5 years	6.81%	5.83%
Volatility	12.40%	14.85%

Source: Credit Suisse, Bloomberg, STOXX. All figures are based on data from 24/03/2003 until 21/04/2016. Past performance (actual or simulated) is not an indicator of future performance. The iSTOXX Global Demography Select 50 Index is live since 12 May 2016. All data shown is for indicative purposes only.

US: S&P 500 P/E Ratio and Middle/Old Ratio



- Weak correlation for France, Germany and Japan

Source: UN, Online Data Robert Shiller, Credit Suisse Demographics Research

Pension Fund Asset Allocation: Largest 7 Pension markets

Pension Fund Asset Allocation (2001 vs. 2015)								
	2001				2015			
	Equities	Bonds	Cash	Other	Equities	Bonds	Cash	Other
Australia	62%	19%	5%	14%	48%	14%	17%	21%
Canada	62%	26%	2%	10%	39%	31%	2%	27%
Japan	52%	46%	0%	2%	31%	57%	3%	9%
Netherlands	44%	44%	11%	1%	33%	52%	0%	15%
Switzerland	36%	35%	20%	9%	29%	35%	7%	29%
UK	67%	18%	5%	10%	43%	37%	3%	18%
US	65%	28%	2%	5%	47%	23%	2%	27%

DB-DC Asset Split (2001-2015)				
	2001		2015	
	DC	DB	DC	DB
Australia	83%	17%	87%	13%
Canada	3%	97%	5%	95%
Japan	0%	100%	4%	96%
Netherlands	2%	98%	5%	95%
Switzerland*	49%	51%		
UK	8%	92%	32%	68%
US	52%	48%	60%	40%

*DC assets in Switzerland are cash balance plans and are excluded from the analysis in 2015.

Total Pension Assets - 2015		
	Total Assets (USD billion)	% of GDP
Australia	1,484	119.6%
Canada	1,525	97.0%
Japan	2,746	66.7%
Netherlands	1,378	183.6%
Switzerland	804	118.7%
UK	3,204	111.9%
US	21,779	121.2%
Total global pension assets	35,438	80.0%

Source: Towers Watson (2016)

Conclusions

- Demographics is about “**consumers & worker**” characteristics, not just people numbers or their ages. It affects macro fundamentals: growth, debt, inflation, interest rates & asset prices
- Demographics affects **fundamental factors that affect real estate** demand and supply
- GDP per capita, credit, disposable income, household structure and labour markets are **important influences**
- Changing patterns of urbanisation, infrastructure are important but more important is **changing behaviour of consumers**

Credit Suisse Demographics Research

- The Demographics of Frontier Economies (2016)
- Latin American Demographic focus: structural reforms are critical for future growth (2016)
- Demographic highlights relevant to the Brexit debate (2016)
- China's structural reforms are vital, demographics related and have short-term costs (2016)
- Global Demographics Watchlist 2016 (2015)
- Spotlighting China's new two-child policy (2015)
- A Perspective on Migration: Past to Present (2015)
- World Population Changes & UN Forecasts 2015
- Demographics of Australia & New Zealand (2015)
- UK's demographic dynamics and their implications (2015)
- Demographic Focus – Changing Global Consumers (2015)
- EU's evolving demographics & pensions need attention (2015)
- China's structural priorities: A progress report in the context of its 12th Five-year plan (2015)
- Joint report with Redington & other partners, "The age of responsibility" (2015)
- Indonesia: Are good core demographics adequate for growth and investments? (2015)
- Why has recent macro-policy not been that effective? A demographic view (2015)
- Thailand's Aging Society: Economic & Equities Implications (2015)
- Ebola: Current situation, history & lessons (2014)
- A Demographic View: Do not write off US GDP growth (2014)
- World Cup 2014 Countries: Spotlighting Demographics (2014)
- Exploring how demographics affects sovereign spreads (2014)
- Americas' Demographics & their effects (2014)
- A comparative demographic analysis of EU28 (2013)
- China: Abolishing the one child policy (2013)
- Can the "Asian Tigers" roar back? Demographic insights (2013)
- Demographics, Debt & Sovereign Ratings (2013)
- Demographic insights into policy: Asia's Big 3 (China, India & Japan) (2013)
- Chinese Demographics – Labour mobility, migration, urbanization & reforms (2013)
- Global Demographics: Spotlight on UN revisions, Conditional longevity and Economic growth (2013)
- Demographic dynamics over business cycles and crises: What matters is how different (2013)
- Rising youth unemployment: A threat to growth & stability (2013)
- European Demographics & Fiscal Sustainability (2013)
- ASEAN's Positive Demographics Underpins Stable Growth (2012)
- Africa's Demographic Promise: Opportunities & Challenges (2012)
- Assessing Asia's Demographic Promise (2012)
- ADBInstitute, "Innovative Approaches to Managing Longevity Risk in Asia: Lessons from the West" (2012)
- How Increasing Longevity Affects Us All?: Market, Economic & Social Implications (2012)
- How Demographics Affect Asset Prices (2012)
- Spotlighting The European Union's Demographics (2011)
- Assessing Latin America's Demographic Prospects (2011)
- Macro "Fiscal Sustainability" to Micro "Economic Conditions of the Old" in the "Oldest Five" Countries (2011)
- Longer Lives, Changing Life Cycles: Exploring Consumer & Worker Implications (2011)
- China: The turning point of the labour market (2011)
- Spotlight on Demographic Giants: China & India (2010)
- From the Demographics Lens: US is definitely not Japan & neither is Germany (2010)
- US Demographics – Favourably Poised for the Future (2010)
- European Demographics at the Core- Consumers & Workers (2010)
- A Demographic Perspective of Fiscal Sustainability: Not Just the Immediate Term Matters (2010)
- Demographics, Japanese Current account & a Disappearing Savings Rate (2009)
- A Demographic Perspective of Economic Growth (2009)
- Demographics, Capital Flows & Exchange Rates (2007)
- Global Demographic Change & Sector Implications (2007)
- Demographics, Productivity & Technology (2001)
- New Jobs, New People: Demographic Manifesto (2000)

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