

Population Aging, the Labor Force, and Patterns of Global Economic Growth

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Factors in Productivity Gains

- Transfer of labor force from rural (agriculture) to urban (manufacturing)
- Transfer of labor force from lower productivity manufacturing to services and high-tech (automated) manufacturing
- Education of labor force (primary, secondary tertiary)

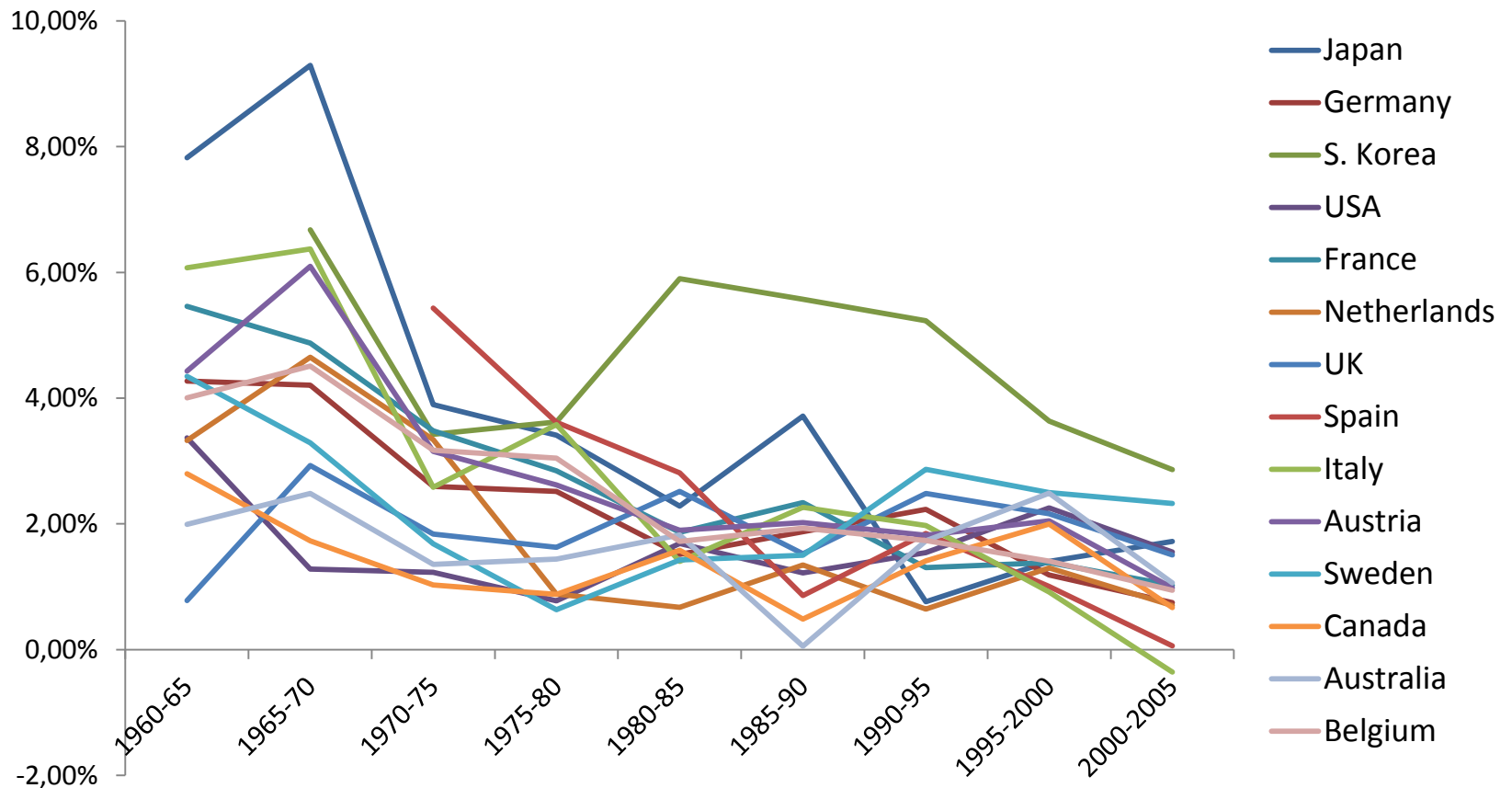
Population Aging and Economic Growth

From Demographic “Bonus” to
Demographic “Onus”

- Labor Force Shrinks in size
- Productivity Gains from experience slow down
- Domestic Savings are drawn down and spent
- Increased Medical Expenses
- Increased Pension Expenses

Experience of Productivity Decline

Annual Rate of Change in GDP per employed worker, 1980-2005



Projected Economic Growth in Europe, USA, China, Japan, Russia, Africa

	Productivity Growth		Labor Force Growth		Labor Force Aging Factor		GDP ann. Growth		GDP 2014	GDP 2040	
	% per year@25 years		total 2015-2040		(increase in median age*.05)						
Europe	2	1.64	-0.51%	0.88	-0.25%		1.23%		17891	1.36	24293
US+Canada	2	1.64	0.32%	1.083	-0.14%		2.19%		18022	1.72	30958
Japan	2	1.64	-1.01%	0.776	-0.33%		0.64%		5733	1.17	6720
Russia + FSU	1	1.28	-0.32%	0.923	-0.24%		0.44%		2298	1.12	2565
China	8	6.85	-0.52%	0.877	-0.50%		6.90%		8062	5.31	42772
India	5.5	3.81	0.86%	1.24	-0.36%		6.03%		2097	4.32	9061
Indonesia	4.2	2.80	0.66%	1.18	-0.36%		4.52%		901	3.02	2721
Other Asia	4	2.67	0.70%	1.19	-0.38%		4.33%		3973	2.89	11474
Latin America	4	2.67	0.56%	1.15	-0.44%		4.13%		5970	2.75	16412
MENA	3	2.09	1.24%	1.36	-0.32%		3.95%		3767	2.63	9913
Oceania	2	1.64	0.99%	1.28	-0.16%		2.85%		1476	2.02	2982
SS Africa	3	2.09	2.75%	1.97	-0.17%		5.65%		1552	3.95	6135
WORLD							3.41%		71742	2.31	166005