



Live long and prosper!

Health and longevity as growth drivers

March 20, 2006

The trends of a growing health sector and ageing populations form the trend cluster "enlarging scope of life" in our *Formel-G* growth model. Its impact on economic growth is positive.

Technological progress is the major driver for the enlarging scope of life. Constant improvements to drugs and equipment are very expensive, but they continue to lower mortality rates. The life expectancy of a newborn in Germany has risen 8 ½ years since 1960. Over the same period health spending as a proportion of GDP has doubled to 11%.

Positive effect on human capital and population growth. With rising life expectancy, the pay-off period of an investment in education increases and with it the incentive to make this investment in a better and longer – indeed life-long – education. Moreover, declining mortality alters the age structure of the population: the pyramid is fortunately a relic of the past. In addition, population growth would accelerate as a result of lower mortality rates if the birth rate remained constant.

Different speeds of the trends across countries. In recent years Korea, Chile and India have made up considerable ground in life expectancy relative to the leader Japan. Going forward, we expect the strongest acceleration of the overall trend cluster in China and Germany.

The speed and impact of the trend cluster continue to be underestimated: forecasts of life expectancy and the size of the healthcare sector are probably still too low – the need for adjustment in the political and business arenas is greater than many people think.

www.
dbresearch.com

Author

Stefan Bergheim
+49 69 910-31727
stefan.bergheim@db.com

Editor

Stefan Schneider

Technical Assistant

Pia Johnson

Deutsche Bank Research
Frankfurt am Main
Germany

Internet: www.dbresearch.com

E-mail: marketing.dbr@db.com

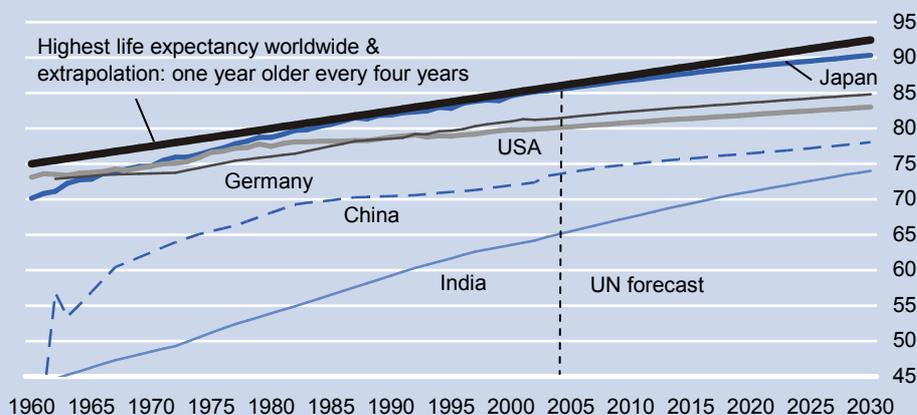
Fax: +49 69 910-31877

Managing Director

Norbert Walter

Life expectancy underestimated

Life expectancy of women at birth in years, UN forecasts from 2004



Sources: United Nations, Oeppen & Vaupel (2002)

Table of contents

	Page
1. “To your health!” – and to more economic growth	3
2. A powerful trend for decades	4
Ever richer in years of life.....	4
Sharp upturn in spending and outcomes	4
No end to the trend in sight.....	6
Technology and income the key drivers	7
Interplay between the trends.....	8
3. The positive impact on GDP growth	9
Human capital – longer pay-off period	9
Positive impact on population growth	9
Health sector increasingly capital-intensive	10
Health goods and services provided globally.....	10
4. Successes are home-made	11
Japan – a model of life expectancy and efficiency.....	11
India – rapid catch-up from a low base	11
China – health sector destined to grow.....	12
Germany – allowing more private involvement.....	12
5. Framework set by politics	13

1. “To your health!” – and to more economic growth

Health is highly valued...

New Year and birthday greetings almost always contain wishes for good health, and in many countries and languages toasts are offered “to your health”. This is consistent with the idea that people’s welfare depends crucially on the quantity (life expectancy) and quality (consumption level) of their lives. In both respects many countries have made enormous, mutually enhancing progress over recent decades.

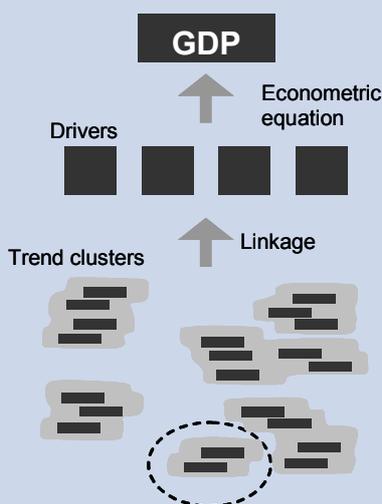
Health is not only highly valued by individuals, it can also contribute to more economic growth: all else being equal, population growth increases as mortality declines; and longer life expectancy creates greater incentives for better education. As Mr. Spok would say: Live long and prosper!

... and can contribute to economic growth

Health is the state of physical and spiritual well-being. Or as Friedrich Nietzsche aptly remarked: “Health is the degree of sickness that still permits me to go about my essential affairs.” The health sector thus comprises all products and services that people buy to restore, improve and guard against impairment of their physical and spiritual well-being.

These include, on the one hand, health expenditure in the narrower sense, for example in-patient or out-patient treatment and disease prevention (healthcare) and, on the other, expenditure on physical wellbeing in the broader sense, such as cosmetic surgery, massage, health cures and appetite suppressants (personal care).

DBR’s analytical framework for long-term growth forecasts: *Formel-G*



Source: DB Research **1**

“Enlarging scope of life” in the DBR growth forecast model

The trend cluster “Enlarging scope of life” is an element of our *Formel-G* model for long-term growth forecasts in 34 poor and rich countries, with the year 2020 as the forecast horizon.

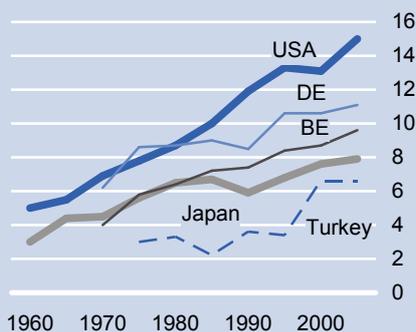
This publication sets out to describe the trend cluster in greater depth, to depict drivers and constraints, to explain its impact on the four drivers of growth in *Formel-G* and to present some country illustrations and forecasts. The implications of the trend cluster for individuals, companies and economic policy are also highlighted.

The adjacent chart illustrates the elements of the *Formel-G* framework. The trend cluster “Enlarging scope of life” consists of the two individual trends “populations are ageing” and “health sector grows”. It is one of the six clusters in the map of trends that shape future growth. It has a positive effect on the four drivers population growth, the investment ratio, human capital and trade openness: an acceleration of the trend cluster speeds up the increase in the drivers. On the basis of the forecasts of the drivers refined by the trend analysis, the rates of growth for gross domestic product in the 34 countries modelled are calculated up to the year 2020.

(Details in: Global Growth Centres 2020. Deutsche Bank Research. Current Issues, March 23, 2005)

Health spending up sharply

Total expenditure in % of GDP

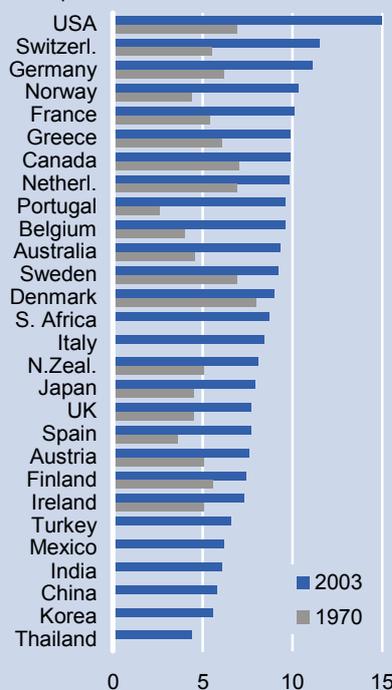


Source: OECD

2

USA and Switzerland spend most on healthcare

Total expenditure in % of GDP

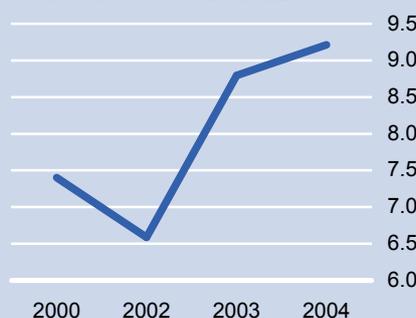


Sources: OECD, WHO

3

Cosmetic surgery is booming

Treatments in the USA in millions



Source: American Society of Plastic Surgeons

4

2. A powerful trend for decades

The trend cluster “enlarging scope of life” has developed very strongly for decades and should continue to do so over the forecast period up to 2020 at least. In all countries, life expectancy will climb further, mortality rates will decrease and the share of total health spending in GDP will carry on rising.

Ever richer in years of life

The trend labelled “populations are ageing” encapsulates primarily the concept of “old” in the sense of “rich in years of life” as a result of individuals’ rising life expectancy. Of course, a society’s overall age structure also depends on the birth rate and possible cohort effects. The name of the trend cluster “enlarging scope of life” captures the appropriate medical definition of the term “old”: a person is deemed old when age-related physical and mental disabilities considerably impair day-to-day life. According to this definition the share of old people in the total population is falling steadily across the world.

Studies show for both the USA and Germany that the likelihood of being health-impaired or in need of care at a certain age decreases over the decades. Some research even suggests a compression of health problems into the final years of life – which are, anyway, being reached at an increasingly old age.¹ A relatively conservative assumption would be that people today are health-impaired for just as many years as they were in the past.

Consequently, as life expectancy increases the proportion of the population considered old and unable to work from a medical point of view is falling. Therefore, people do not automatically become old when they turn 65. The static definition, still used too frequently today, that everyone over the age of 65 is “old” or incapable of working stems from the 1960s, when men in the industrialised world had a life expectancy of just over 65 years. Fortunately, advertising makes more and more use of the dynamic definition of “old”, even describing those over the age of 50 as the “best agers”.

As mentioned, the health sector encompasses both medically necessary treatment, such as surgery for a fractured arm, and health-preserving and not medically indicated treatment, such as massages and cosmetic surgery. In many countries the second segment in particular has been expanding very dynamically for years. The number of cosmetic plastic surgery in the US soared 24% between 2000 and 2004 to 9.2 million (see chart 4). In this field, too, America will presumably be the trendsetter for other countries. Drugs and cosmetics are another huge growth market.² Around USD 20 bn alone is spent on anti-depressants world-wide.

Sharp upturn in spending and outcomes

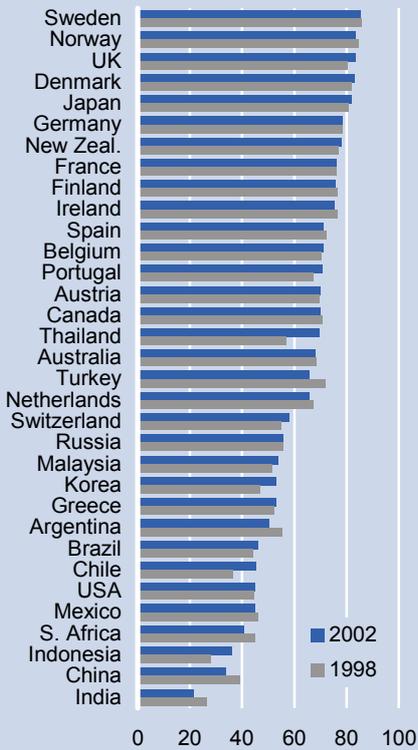
The evolution of the trend cluster can be measured with reference to both expenditure and outcomes. Spending reflects primarily the expansion of the health sector, while outcomes such as falling infant mortality rates and rising life expectancy mirror most importantly the trend “populations are ageing”.

¹ See Ziegler and Doblhammer (2005) and Section 160 in the 2005 Report of the German Advisory Council on the Assessment of Developments in the Health Care System.

² See Perlitz (2002).

Increasing state activity

Public-sector share of health spending in % of total



Source: WHO **5**

a) Continued steep increase in spending

From 1960 to 2003 total health spending in the US surged from 5% of GDP to 15% (see chart 3). In other countries the rise was not quite so dramatic, but the trend is evident without exception in every OECD country. Since 1970 healthcare expenditure has gained on average four percentage points across the OECD. We expect the trend to continue at a similar pace on average over the next 15 years. Of the 34 countries we examined, Korea and Thailand seem to have the greatest catch-up potential. In the US a roughly 20% share of GDP is highly likely by 2020.³ But considering the value of a human life (approximated by using expenditure on airbags or better food), the proportion of health spending there should already be 30% today.⁴ Spending is presumably below the socially optimal level in many other countries as well.

The state accounts for varying proportions of health spending. In Scandinavia and the UK more than 80% of total healthcare expenditure comes from the government, compared with just 34% in India and 21% in China (see chart 5). In our set of countries a high government share goes hand in hand with high life expectancy. However, this outcome is driven by some developing countries whose governments are neglecting their duties in the healthcare system. From a public sector share of around 50% it is not clear whether greater government involvement produces better or worse results. Many countries, most notably Thailand, Chile and Indonesia, have considerably raised the proportion of public sector spending since 1998. In contrast, the governments of India and China have downsized their role even more – a development that gives cause for concern in light of the rather low level of overall health expenditure.

b) Better and better results

Increasing life expectancy and decreasing mortality are the key results of an expanding health sector and a prerequisite for the trend of ageing populations. They have been in place in most countries for many decades. In Germany a boy born in 1870 could expect to live only 36 years on average, compared to 75 today. Life expectancy in Japan (the average of men and women) has jumped from 67.7 years in 1960 to 81.7 years – by an amazing four months a year. In China and India the rise has been even steeper (see chart 6).

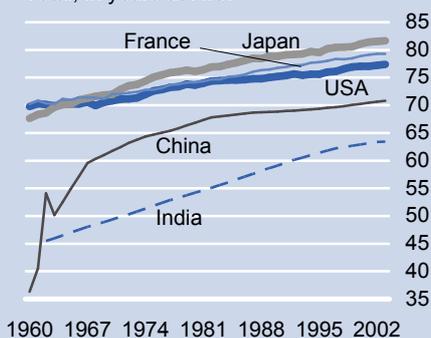
An important reason for this higher life expectancy has been the rapid drop in child mortality in all countries. In 1970 20% of all live-born infants in Turkey and India died within the first five years, a rate that has since fallen to 4% and 9% respectively (see chart 7). In many wealthy countries this figure is below 0.5% today, with the US trailing in this ranking given its comparatively high infant mortality rate. There still is particularly large room for improvement in India, South Africa and Indonesia.

c) Funds not always spent efficiently

Both expenditure on health and the outcome, such as life expectancy, have climbed strongly over the past decades – and will continue to do so in the forecast period up to 2020. The trend is thus solidly underpinned. But this says nothing about the efficiency (the output per unit of money input) of the health systems in the various

Life expectancy keeps rising

Total, in years at birth



Source: WDI 2005 **6**

³ Hall and Jones (2004) predict a 30% share by 2050 and life expectancy of 86 years.

⁴ Murphy and Topel (2005) argue that additional expenditure on healthcare therefore has a high net societal value.

Strong drop in infant mortality world-wide

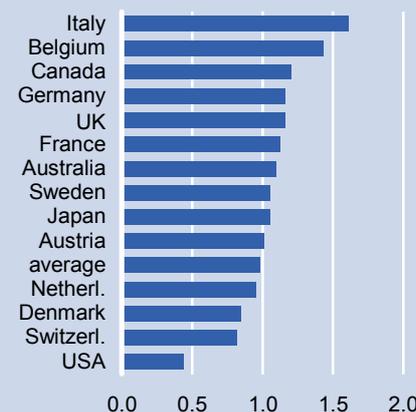
Under-five mortality per 1,000 live births



Source: Human Development Report **7**

Efficient EU countries

Index of health system efficiency 2001



Ratio of healthcare index to costs. Used here: 100/original index. Source: Fritz Beske Institute **8**

countries or about their specific strengths and weaknesses. The Fritz Beske Institut für Gesundheits-System-Forschung (healthcare systems research and development institute) has compared the performance and costs of various systems and identified particularly efficient regimes in Italy and Belgium (see chart 8). However, the level of healthcare there is clearly below that in Germany, for example. The US trails the efficiency ranking. One reason may be that the US system is under less cost pressure than the pay-as-you-go (PAYG) European systems, which constantly seek to limit the burden on contributors.⁵ The US system permits far higher pay for doctors, higher prices for drugs and higher administrative spending.

No end to the trend in sight

In terms of the trends and future paths of the drivers in *Formel-G*, the question regularly arises: is there a maximum, and will the trend automatically peter out? The answer is: certainly not on our forecast horizon up to 2020 – and presumably not beyond that either. This is particularly true of the trend cluster “enlarging scope of life”.

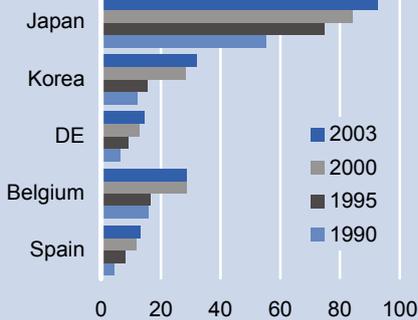
The chart on page 1 shows no deceleration of the trend in the country already featuring the highest life expectancy, Japan. Indeed, the stability of the trend can even be traced back globally to the mid-19th century:⁶ in 1840 Swedish women led the field with life expectancy of 45 years, today Japanese women live to be 85. Over these roughly 160 years we see a stable, linear rise of three months a year in the respective leading country. The United Nations and various scientists have repeatedly forecast a levelling of the trend, but this has never occurred. However, these false predictions have had a significant impact on decisions by policymakers (e. g. on pensions) and individuals that have likewise subsequently proven wrong. Our trend analysis assumes that the trend of rising life expectancy will generally continue on a linear path, of course with country-specific differences. Indeed, the rapid development of biotechnology and genetic technologies even opens up the possibility of an acceleration of the trend.

⁵ Kotlikoff and Hagist (2005) make this point just as clearly as Hsiao (2000) before them.

⁶ Oeppen and Vaupel (2002).

Rising capital intensity

Computer tomographs per million inhabitants

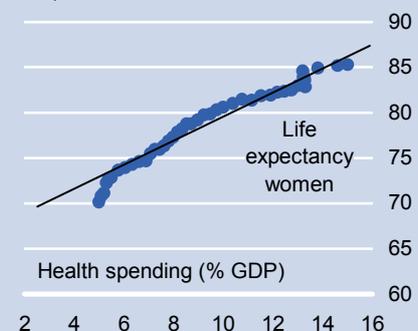


Source: OECD Health Data 2005

9

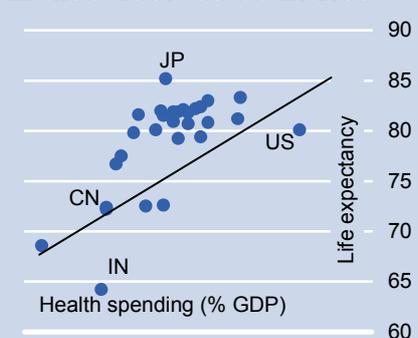
Expenditure and life expectancy rising in tandem...

USA, 1960 to 2003



Sources: OECD, UN, DBR calculations

10

... also accross countries

Sources: OECD, UN, Deutsche Bank Research

11

Technology and income the key drivers

Technological progress is one of the two most important drivers for the expanding health sector and for the resultant increase in life expectancy. Among the most important fields of research are diagnostics, stem cell research, cancer treatment and gene therapy as well as health services administration. In the DBR trend map the trend of a growing health sector consequently also borders on the trend "biotechnology becomes central growth area".

New technology can both cause and reduce costs. The latter is the outcome normally expected of technological progress: producing more or producing something better with the same input. Improved medical diagnostic methods may lead to illnesses being detected earlier, making their treatment less complicated. However, more important and hence trend-determining, is cost-driving technological progress. Computer tomography scanners, for example, can cost more than EUR 1 million, placing a considerable burden on budgets up-front (see chart 9).

The electronic healthcare card in Germany is an important step in the right direction, making it unnecessary each time patients seek out a new doctor to enter their allergies by hand into a complicated form. However, in Germany alone the capital outlay for electronic healthcare cards would run to about EUR 2 billion. Equipping 5,000 hospitals and 500,000 doctors with state-of-the-art information technology in the USA would cost around USD 150 bn.⁷ At some stage the costs per patient will fall, but the way there is paved with heavy investment.

Technological progress entails ongoing development of new products which find their market. In the US, people can record what they eat on mobile camera phones and have the calories counted by an internet-based dietician. The market for this service is enormous, considering that 30% of adult Americans and 13% of Germans are obese, with a body mass index (BMI) of 30 or above. Cardiac patients can have doctors monitor their heart rate with the aid of a mobile telephone. In an emergency the sick person can be located by GPS.

The second major driver of the trend cluster is the rise in incomes. People with higher incomes can afford to spend more on healthcare. The still-controversial question, though, is whether they spend a higher proportion of their income on healthcare only because income rises. Is health a luxury good or a normal good? Economists and econometrists have been debating this issue for years and still do not seem to have reached a consensus. Our assumption is that, by itself, an increase in income results in a slightly bigger rise in health spending, although the elasticity does not appear to be very large.

Another hugely important factor in the development of the health system is the political terms of reference and intervention. Irrespective of whether the state organises healthcare itself or merely sets the institutional framework, it is almost always involved. Politicians decide on the budgets allocated to the state systems. And they also decide which products may be offered on the market: does a country wish to take advantage of the progress in biotechnology? The state also determines the extent to which income differences within society lead to differences in healthcare provision. An important issue for many emerging markets governments is whether

⁷ The Milken Institute Review, Q4 2005, p. 79.

they can succeed in setting up an adequate health system for the entire population.

Interplay between the trends

Health sector important for life expectancy...

... but few effects in the other direction

The two trends “health sector grows” and “populations are ageing” are neighbours and form one cluster notably because the expanding health sector, coupled with improved hygiene and education, is the crucial determinant of rising life expectancy. In the other direction, though, the impact of higher life expectancy on health spending tends to be small. Medical research clearly proves that health spending depends not on the number of years already lived, but on the remaining life expectancy.⁸ The highest health expenditure always occurs in the last years of a life, irrespective of the overall life span. Or to put it another way: a 65 year-old today will certainly entail higher costs than a 25 year-old today but, in the same health system, lower costs than a 65 year-old 30 years ago.

Rising life expectancy influences life planning

Contrary to the still widespread preconception, rising life expectancy is not a cause for the significant increase in health spending – it is a consequence. This does not, of course, rule out the possibility that some OECD countries may temporarily have to shoulder higher spending from the cohort effects when the baby boomers approach the end of their lives. On the other hand, rising life expectancy will have a significant impact on biographies as more flexible life plans increasingly replace the classic sequence of education – work/family – pension.

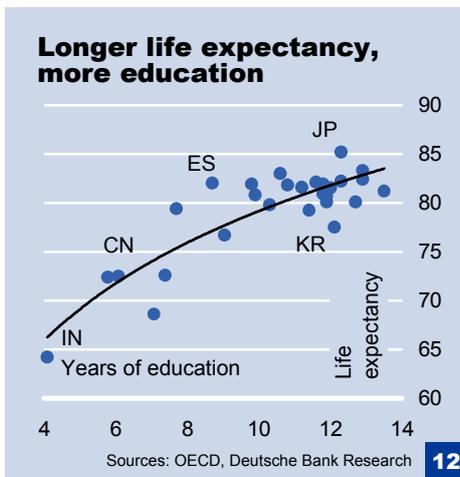
⁸ Zweifel et al (1999).

3. The positive impact on GDP growth

Human capital and population increase

The “enlarging scope of life” has a positive impact on the four drivers of the *Formel-G* growth model. Human capital and the population in particular increase when life expectancy and expenditure on healthcare rise. Should the trend cluster accelerate, human capital and population will climb more quickly than in the past.

Longer pay-off period on investment in education



Innovative age rises over time

Human capital – longer pay-off period

A better health system and higher life expectancy have a positive impact on the evolution of human capital – measured by the average years of education – through several avenues.⁹ First, healthy children can concentrate better and learn longer than sick children. They will be more successful in their early years of schooling already and thus more likely to be able to go on to further education. But a second factor appears far more important: as life expectancy rises, so the pay-off period (including the pension phase) of an investment in human capital increases. A person with only 40 years to live will certainly not remain in education until the age of 28.¹⁰ Experience in recent decades and country comparisons today show that education systems in poor countries do not start being really successful until life expectancy exceeds 55 years.¹¹ In the wealthy countries people have spent about 45% of their gain in life expectancy in the past 40 years on longer education. Educational researchers have even identified a non-linear relationship: the longer people live, the higher the proportion of additionally gained life they wish to spend on education (as the rise in income is non-linear). But it is also clear that the education acquired in early years depreciates and loses value in the course of a long life. Life-long learning is therefore vital to keep the individual’s human capital high.

Older people tend to be less innovative than younger people, but a 50 year-old today is presumably more innovative than a 50 year-old 30 years ago. Studies show that innovators today are on average eight years older than at the beginning of the 20th century.¹² One reason for this could be the increase in the amount of knowledge available, which requires longer periods of study to approach the present limits of human knowledge. At a given point in time “old” people are probably less innovative on average than “young” people, but over time the innovative age seems to be advancing.

Declining mortality raising median age

Positive impact on population growth

An expanding health sector leads to better health and declining mortality at all age levels. This has a marked impact on population growth, the median age, life expectancy and the number of births. If the number of births holds steady or drops only slightly, the population will grow faster than before as a result of declining mortality. The trend cluster thus has a positive effect also on the second of our four variables. However, in response to lower mortality and higher life expectancy the birth rate tends to decline as more children survive for longer and are able to support their parents in old age. This classic pattern has been observed in all countries.

Classical pyramid implies high mortality

Declining mortality, rising life expectancy and lower birth rates will, however, dramatically alter a society’s age structure. The classical

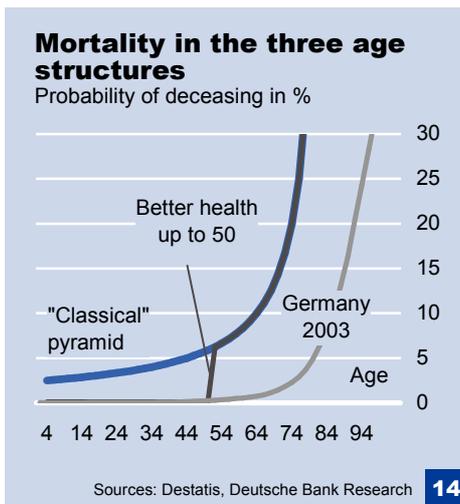
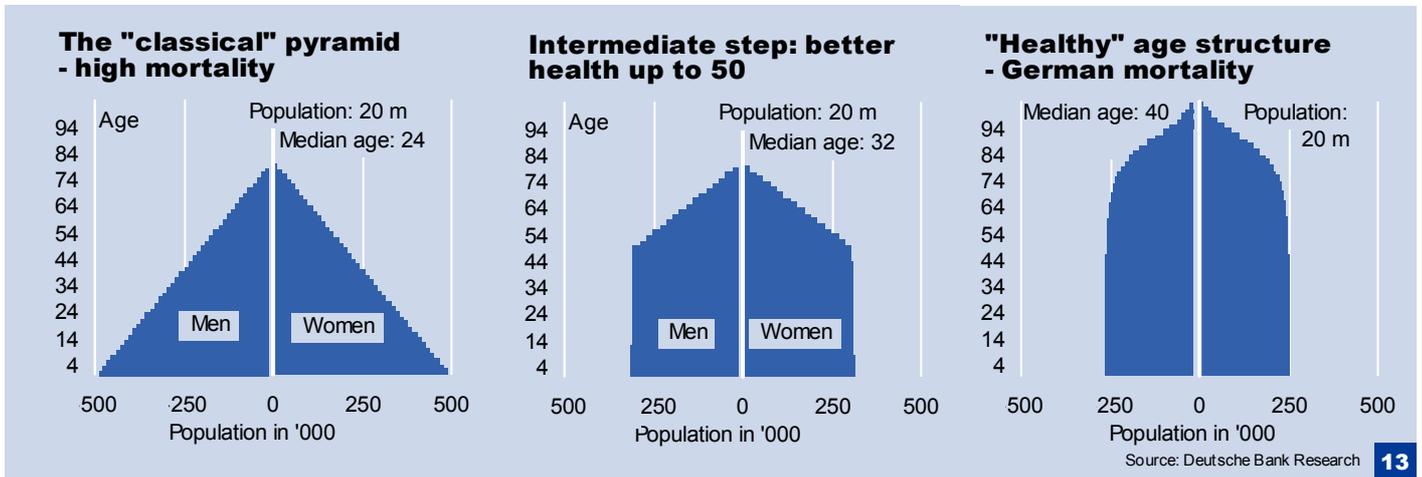
⁹ See Bergheim (2005b).

¹⁰ The causality also works the other way round. Better educated people are healthier and have a higher life expectancy.

¹¹ See Cohen and Soto (2002).

¹² See Jones (2005).

pyramid form depicted in chart 13 (graph on the left) is by definition found only in countries with high mortality rates especially among children.¹³ Happily therefore, it will increasingly become a thing of the past. A country with an equally high population of 20 million, as in the first chart, but with a lower mortality rate among its young people can therefore also have a far lower birth rate.



In the middle graph of chart 13 the birth rate drops by more than one-third and the population structure becomes significantly narrower. If older people's life expectancy also increases, the birth rate can decrease further without causing a decline in the overall population. The right-hand graph in chart 13 shows the structure of a constant population of 20 million with the German mortality rates from 2003 in long-run equilibrium. Here, the number of births is only half as high as with the "classical" pyramid. With a constant population size of 20 million the median age climbs from 24 years (pyramid) through 32 years (intermediate step) to 40 years ("German mortality").

Almost all the population forecasts entering into our *Formel-G* growth model are higher than the United Nations' forecasts because Deutsche Bank Research weights improvements in the health system more heavily and expects further significant advances overall.

Health sector increasingly capital-intensive

The impact of the trend cluster on investment in physical capital is probably small or indirect. Since the health sector will become increasingly capital-intensive, the capital stock will increase. The number of computer tomography scanners per one million inhabitants in Germany, for example, rose from 6.4 in 1990 to 14.7 in 2003 (see chart 9). Moreover, the stronger gain in human capital will also push up the return on physical capital, so the investment ratio should pick up somewhat.

Health goods and services provided globally

The impact of the trend cluster on trade openness is probably small but positive as well. Markets for drugs and medical technology are globally networked. An expanding health sector will therefore also

¹³ For the sake of simplicity the same average mortality rate is assumed for men and women here. In fact, in most countries women have a considerably higher life expectancy.

foster the exchange of goods across national borders. Even health-related services are increasingly being offered globally. Examples range from dental tourism to Hungary through Ayurveda treatments in Sri Lanka to nursing homes for Japanese in the Philippines.

4. Successes are home-made

Japan – a model of life expectancy and efficiency

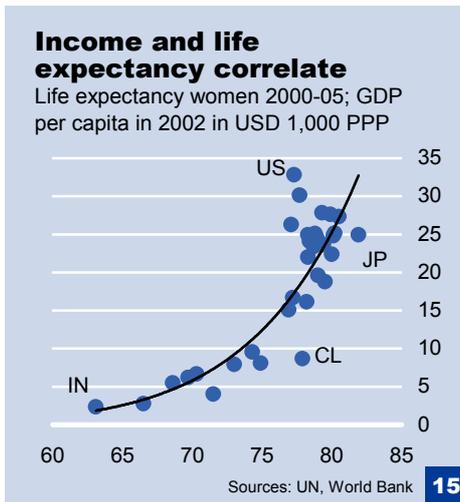
For years Japan has been the country with the highest life expectancy (see chart 15) and in 2003 it had the third lowest infant mortality rate. The government's vision for 2030 quite rightly assumes a healthy life expectancy of 80 years and an increase of 12% in the time at people's free disposal. Japan's high life expectancy seems to be partly due to the relatively healthy diet and life style – only 8% of GDP is spent on the health system.

The speed of the trend cluster has been exceptionally high in recent years in Japan, with life expectancy rising faster than in basically any other wealthy country and the health sector expanding strongly. Going forward, there is likely to be little change in pace. The government has identified the major weak spots and is trying to keep the health system stable in the long run with higher co-payments and reforms of the health insurance system. Given that the trend is extremely pronounced, it will come as no surprise that *Formel-G* predicts the highest level of human capital per head for Japan in 2020, at 15 years. But notwithstanding the further increase in life expectancy, the low birth rate will lead to a slight decrease of the population.

India – rapid catch-up from a low base

In our *Formel-G* model India is the country with the highest GDP growth in the years 2006-20. A pronounced acceleration in the trend cluster "enlarging scope of life" is one of the reasons for this forecast and for the strong growth of human capital.¹⁴ At present, life expectancy is still very short and infant mortality relatively high. The government's share in the anyway low health spending ranked last in 2002 at 21% (see chart 5). This is changing now. In April 2005 India introduced a value added tax of 12.5% (to replace the sales tax) and most of the extra revenue is set to be channelled into the health sector. The government report "India Vision 2020" envisages a quadrupling of the ratio of state health spending to GDP from 0.8% at present to 3.4%.

The introduction of global patent standards in 2005 is bringing about change in India's pharmaceutical sector. Instead of focusing on copying drugs, more independent research is being carried out and more in commission for firms from other countries. Indian companies are also purchasing know-how from abroad. Earlier this year, India's Dr. Reddy bought betapharm, while in autumn 2005 there was speculation that Wockhardt, another Indian generics manufacturer, might take over a German or American rival. Wockhardt has boosted its international sales from 9% of total sales in 1993 to more than 60% in 2004, an illustration of India's successful and prosperity-boosting integration into the global economy.¹⁵



Greater focus on public spending

Pharma industry increasingly important

¹⁴ Asuncion-Mund, Jennifer (2005). India rising: A medium-term perspective. Deutsche Bank Research. International topics/India Special. May 19, 2005.

¹⁵ On the subject of openness see Neuhaus, Marco (2005).

Government sets priorities in the health sector**China – health sector destined to grow**

We expect the most marked acceleration of the trend cluster to occur in China. After the government retreated more and more from the health sector in the past decades, the still impoverished rural population now has to pay for 90% of its health costs itself. This is presumably one reason why life expectancy in China has risen far more slowly since 1980 than in most other countries.

However, the government has recognised the problems and is now setting new priorities. The 11th Five Year Plan foresees a marked expansion in public health spending, at the expense of investment in infrastructure. Population growth, which is very low anyway because of the low birth rate, would then pick up a little, education incentives would be greater – but also the pressure on the pension systems.¹⁶

More private initiative in Germany**Germany – allowing more private involvement**

Whereas in some emerging economies the state is not sufficiently involved in the health sector, in Germany the key to higher growth seems to lie in more private involvement. As the government seeks to prevent further rises in non-wage labour costs, revenues are the prime constraint on the health systems.

The powerful acceleration in the trend cluster that we expect for Germany will therefore be driven primarily by private initiative. From higher prescription charges for drugs to the privatisation of (university) clinics to more personal expenditure on healthcare and wellness, the growth in the health sector will be financed and operated mainly by the non-government sector. If the system changes in this direction, it would mean that going forward a person's health will depend more on his individual income – as is the case in other countries as well.

¹⁶ Trinh, Tamara (2006). China's pension system: Caught between mounting legacies and unfavourable demographics. Deutsche Bank Research. Current Issues, China Special, February 17, 2006.

5. Framework set by politics

Letting growth effects unfold

The trend cluster “enlarging scope of life” can unfold its full effect and have a positive impact on economic growth only if the appropriate social and political conditions are in place. This includes an up-to-date definition of the term “old”, a further efficient development of the health systems and ongoing adjustments to education and pension systems.

a) Proper societal definition of “old”

The static definition of “old” dating from the 1960s still shapes the way many societies think and act. On this measure people are old and incapable of working by the age of 65 at the latest. But this definition is medically untenable and socially and macro-economically counter-productive. A new definition will have little effect in itself, but it will smooth the way for further reforms.

b) Letting health systems grow further

The political challenge in all countries is to allow further growth of the health sector. In some countries the state itself must play a greater role, in others it must create more scope for private providers and demand. There is no miracle formula; each country has its own specific weaknesses and possibilities.

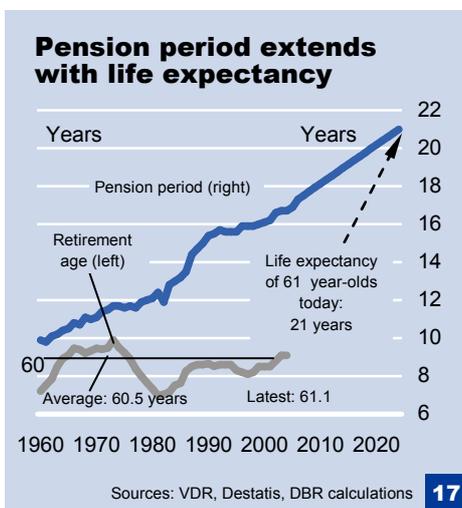
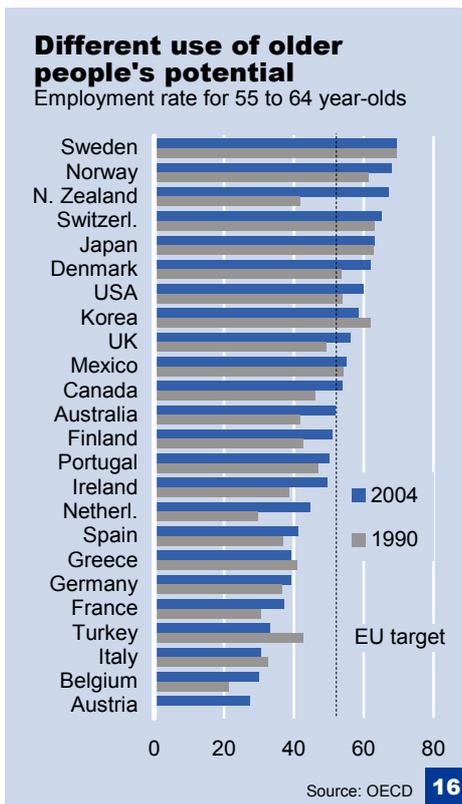
c) Allowing the effects on the drivers to unfold

The growth effects of the trend cluster can fully unfold only if the positive impact on the drivers human capital, population growth and investment is allowed to materialise. Higher life expectancy always implies a focus on life-long learning, something to which Europe recently seems to be waking up. In Germany and other EU countries the essentially positive impact of rising life expectancy on individual investment in human capital has been choked off because working life still comes to an end, as it did 45 years ago, shortly after age 60. All the increase in lifetime in Germany has been translated into longer education and retirement periods. This has not created greater incentives to further training. The EU goal of a 50% employment rate for 55 to 64 year-olds can only be an intermediate target. Sweden, Switzerland and Japan show that rates in excess of 60% are possible (see chart 16).¹⁷

A drop in the birth rate amid declining mortality, higher life expectancy, higher education levels and higher incomes should come as no surprise. Policy-makers can mitigate the drop in the birth rate if they recognise the linkages and take timely action.

d) Adjustment of pension systems

Better health, reflected in low mortality rates, high life expectancy and higher productivity, has a huge impact on state and private pension systems. Given the advance in life expectancy, it is evident that the present value of a pension can be held constant only if the retirement age is raised or the monthly payment reduced. In many wealthy countries neither has happened in the state pension systems for many decades. The retirement age in Germany, for example, has remained unchanged since the 1960s at around 60, as a result of which the average length of time a pension is drawn has almost doubled (see chart 17). Even with constant monthly payments the present value of claims on the state system would



¹⁷ See Bräuninger (2005) for an in-depth discussion.

thus have soared. The financial dilemma facing the pension systems already today – well ahead of the retirement of the baby boomers – is the logical consequence.

Stefan Bergheim (+49 69 910-31727, stefan.bergheim@db.com)

Bibliography

- Bergheim, Stefan (2005a). Global growth centres 2020. Deutsche Bank Research. Current Issues, February 9, 2005.
- Bergheim, Stefan (2005b). Human capital is the key to growth. Deutsche Bank Research. Current Issues, August 1, 2005
- Bräuninger, Dieter (2005). More jobs for older workers – against unemployment and early retirement. Deutsche Bank Research. Current Issues, October 14, 2005.
- Cohen, Daniel and Marcelo Soto (2002). Why are some countries so poor? Another look at the evidence and a message of hope. OECD Development Centre technical papers No. 197.
- Hall, Robert E. and Charles I. Jones (2004). The value of life and the rise in health spending. NBER Working Paper No. W10737.
- Hsiao, William (2000). What should macroeconomists know about health care policy? A primer. IMF Working Paper 00/136.
- Jones, Benjamin F. (2005). Age and great invention. NBER Working Paper No. W11359.
- Kotlikoff, Laurence J. and Christian Hagist (2005). Who's going broke? Comparing healthcare costs in ten OECD countries. NBER Working Paper No. W11833.
- Murphy, Kevin M. and Robert H. Topel (2005). The value of health and longevity. NBER Working Paper No. W11405.
- Neuhaus, Marco (2005). Opening economies succeed. Deutsche Bank Research. Current Issues, November 11, 2005.
- Oeppen, Jim and James W. Vaupel (2002). Broken limits to life expectancy. Science Vol. 296, pp. 1029-1031.
- Perlitz, Uwe (2002). Pharmaceutical market: Run on lifestyle drugs boosted by demographic trend. Deutsche Bank Research. Current Issues, February 26, 2003.
- Ziegler, Uta und Gabriele Doblhammer (2005). Steigende Lebenserwartung geht mit besserer Gesundheit einher. Demografische Forschung aus erster Hand. Volume 2, No. 1.
- Zweifel, Peter, Stefan Felder and Markus Meiers (1999). Ageing of population and health care expenditure: a red herring? Health Economics 8, pp. 485-496.

Current Issues

ISSN 1612-314X

Available faster by e-mail:
marketing.dbr@db.com

Environmental sector China From major building site to growth market	February 28, 2008
China's pension system Caught between mounting legacies and unfavourable demographics.....	February 17, 2006
Mexico 2020: Tequila sunrise A medium-term growth perspective	February 16, 2006
India's public finances: Do they matter?	January 13, 2006
World steel market: Asia forging ahead.....	January 10, 2006
India as a global power?	December 16, 2005
The US's new energy policy – barely a start	December 14, 2005
Expansion of regional airports: Misallocation of resources	November 18, 2005
Opening economies succeed More trade boosts growth	November 11, 2005
Dynamic sectors give global growth centres the edge	October 31, 2005

All our publications can be accessed, free of charge, on our website www.dbresearch.com
You can also register there to receive our publications regularly by e-mail.

Ordering address for the print version:

Deutsche Bank Research
Marketing
60262 Frankfurt am Main
Fax: +49 69 910-31877
E-mail: marketing.dbr@db.com

© Copyright 2006. Deutsche Bank AG, DB Research, D-60262 Frankfurt am Main, Germany. All rights reserved. When quoting please cite "Deutsche Bank Research".

The above information does not constitute the provision of investment advice. Any views expressed reflect the current views of the author, which do not necessarily correspond to the opinions of Deutsche Bank AG or its affiliates. Opinions expressed may change without notice. Opinions expressed may differ from views set out in other documents, including research, published by Deutsche Bank. The above information is provided for informational purposes only and without any obligation, whether contractual or otherwise. No warranty or representation is made as to the correctness, completeness and accuracy of the information given or the assessments made.

In the United States this information is approved and/or distributed by Deutsche Bank Securities Inc., a member of the NYSE, the NASD, NFA and SIPC. In Germany this information is approved and/or communicated by Deutsche Bank AG Frankfurt, authorised by Bundesanstalt für Finanzdienstleistungsaufsicht. In the United Kingdom this information is approved and/or communicated by Deutsche Bank AG London, a member of the London Stock Exchange regulated by the Financial Services Authority for the conduct of investment business in the UK. This information is distributed in Hong Kong by Deutsche Bank AG, Hong Kong Branch, in Korea by Deutsche Securities Korea Co. and in Singapore by Deutsche Bank AG, Singapore Branch. In Japan this information is approved and/or distributed by Deutsche Securities Limited, Tokyo Branch. In Australia, retail clients should obtain a copy of a Product Disclosure Statement (PDS) relating to any financial product referred to in this report and consider the PDS before making any decision about whether to acquire the product.

Printed by: HST Offsetdruck Schadt & Tetzlaff GbR, Dieburg

Print ISSN: 1612-314X / Internet and e-mail ISSN: 1612-3158