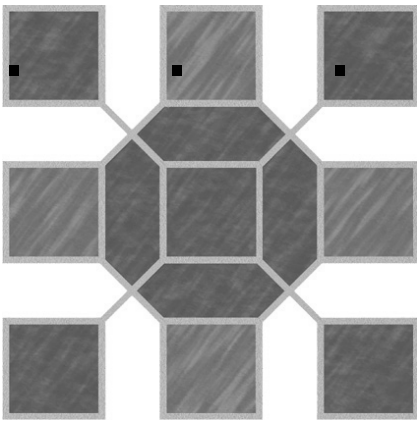


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# Dare we take the demographical leap?



*A speech given by  
Waldemar Ingdahl at  
the European Resource  
Bank Meeting in Vilnius  
on the 14th of October  
2005*



## Dare we take the demographical leap?

The United Nation's projections for Europe indeed seem bleak. In the year 2050 the European median age is projected to be 50 years.

Contrary to many people's impression, the pressure of an ageing population is particularly felt for many of the new member countries. In 2050 Estonia's population is projected to have decreased by 52% and Latvia's by 44%. Such figures make even Italy's population decrease by 22% manageable in perspective. The UK's population might even see a slight increase, thanks to their continued immigration.

The "pay-as-you-go" system for pensions has produced a great number of free riders that receive more than what they would contribute in their productive life.

Add to this high taxation levels, ill functioning labour markets (particularly for the young, unemployment among the young has reached 20-30% in France and Italy), a general decline in child births and it is clear that the European social model will probably just work for a decade or so.

How did we get here?

As you have heard from the previous speakers the problems stem from a bad system, but should also consider that it is the effect of people living longer and healthier lives than ever before.

Old age is a civilization disease, it does not occur in nature. Through our intelligence and ingenuity our culture has been able to produce so much food, health care, medicine and safety to overcome nature. From a life span of 18 years in the Iron Age, 33 years in the middle ages we have now reached a life span of 80 years in many European countries. That is a dramatic increase in a short time span, and it is the reason why one of the founders of the European social model, German chancellor Otto von Bismarck, put the retirement age at 65 years. Back in the 19<sup>th</sup> century very few would attain such a venerable age. The group benefiting from retirement was small. How this has changed! Today Sweden has 436.000 persons aged 80 years or more, in 2050 they will number more than 860.000.

Old age has traditionally been connected to passivity and infirmity, understandable that we still retain that concept.

For the last 160 years the development has been linear. In study made by Jim Oeppen of Cambridge University and James Vaupel at the Max Planck Institute in Rostock in 2002 they showed that the average life span has increased by 3 months every year since 1840. They also found that predictions of maximum lifespan were broken on average 5 years after

they were made, thus undermining many of the prognosis on which the present's predictions for health care and pensions are made. Thus it does not seem unlikely that the EU will reach an average life span of 100 years in 2062, even though there seems to be an unmodified physiological upper limit at 120 years.

And in a recent study made by the UK Actuarial Profession, the Continuous Mortality Investigation, there is a new uncertainty of future mortality. The data collected from 1999-2002 seem to indicate that since 1994 we have seen a drop of 30% in mortality in those under 60 years of age. Why this sudden change? Probably just through people adopting healthier diets, exercising more, smoking less or being in the group with lethal diseases that now have become chronic.

Actuaries are people that are more interested in future mortality rates, rather than the present ones. That is, after all, how insurance companies earn their money. If they now warn us for uncertainties in their statistics, mortality is probably changing faster, stronger and more unpredictably than before.

It is not just the fault of the European social model that we are in dire straits in Europe; it is a demographical trend that is to be solved by changes in lifestyle and medicine. Ever since the Gilgamesh-epic in ancient Sumeria written 4.500 years ago, people have desired to live longer, so it is a very human desire. But gaining an extra 20 years of lifespan just to loose it in the Alzheimer haze is not an improvement.

Biogerontology, the study of the biological reasons of ageing was still ridiculed by other scientists in the 70's. Many thought that the research would not give any useful results; others thought that longevity was not something to achieve. Even today scientists are unwilling to speculate where our newfound knowledge might take us.

We know today that ageing seems to have a strong genetic component. If your ancestors where long lived you will probably have a good chance yourself. DeCode Genetics has a research project mapping the genetic makeup of the Icelandic population. They have found a genetic link between the island's very long lived persons. Other genes seem to prevent cardiovascular diseases and Alzheimer's disease.

But we will not see a "youth pill" coming out of this research, because as said ageing is a civilization disease. We age because evolution does not care for our ingenuity. As a complex, spontaneous process it awards passing on genes. For some species, like humans, it is of our advantage to live longer in order to care for the young, but since the risk of dying early is so high in nature, it has not been an advantage to evolve a very long lifespan for us.

There is thus no "old age" gene per se, but a variety of genes that start to hurt us as we age. Ageing depends on many smaller fallacies. That is how we can ensure a longer, healthier and more active lifespan, by blocking



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them one by one. There is reason for good hope, smaller tasks can be solved, and huge tasks that cannot be broken down are more difficult.

“To lengthen thy life, lessen thy meals” said Benjamin Franklin. It seems like he was right on that too. Caloric restriction diets have shown good results in delaying ageing and geriatric diseases in laboratory rats, and would probably do so for humans too. CR diets are hard to follow though, so there is a good market for functional foods.

The opportunities for preventative and augmentative medicine are enormous. The pharmaceutical industry is always looking for new blockbuster drugs for large patient groups, and if we see the opportunity for non-finite medical goals by breaking down the barriers between treatment back to a certain condition and improvement to the patient’s volition we will see great results.

Hormonal therapies with testosterone, estrogens and growth hormones have been used against elderly infirmities. Beta- blockers have been used to improve memory and further research on memory improvement has shown that the differences between a normal and reduced function are small, which gives us good hope. Vaccines vs. various types of cancer have been tested.

Neuropharmacology is in general developing good. Many elderly are depressed, and depression and pain are enormous problems in Europe. 5% of the population is chronically depressed, 20% are in chronic pain. We lose 500 million workdays and €34 billion every year to this seldom discussed problem. Advances of the Prozac family and tPA-treatment are promising, and have already seen some good results. Brain pacemakers (they emit a signal keeping the brain in motion) have been used against Parkinson’s disease.

It would be possible to combine the use of these technologies with microelectronic implants in the neurological system that could restore capabilities. If combined with prosthetics and a “smart” environment, life quality could well improve for those worst off but also for those less afflicted.

Please remember that many chronic diseases have seen cures being developed lately. The best example is ulcers (the research for the cure received this year’s Nobel Prize). It previously required invasive surgery, as we now know that it is caused by a virus, we can cure it through the simple treatment by Losec and penicillin. Cardiovascular diseases, that were the great killer before, have seen positive developments not only in pharmaceuticals but in prevention.

Preventative care is one of keys to solve the problems; still preventative medicine has not seen the development foreseen in the 90’s. It requires diagnostics which we have through biomedicine, but it is difficult to integrate in today’s public health systems.

This is another bonus from this debate for us liberals. Prevention means individualization of health care. In combination with biomedicine, personalized pharmaceuticals and decentralizing telepresence medicine it might also open up the public health care monopolies.

For full regenerative medicine we need stem cell research. Often this has been discussed in conjunction to organ cloning, but also treatments for Parkinson, macula degeneration, diabetes, and osteoporosis could be developed. All are applications important to the elderly. We do not know if adult stem cell technology will be feasible or if we will have to use embryonic stem cells, but just the research in this area will give us enormous knowledge on the differentiation of cells which will open up for new medical opportunities.

And when discussing the "baby famine" of Europe, lets not forget raising nativity through hormonal treatments, assisted conception and preimplantatory genetic diagnosis. These technologies would matter, 15% of all couples in Sweden are afflicted by involuntary childlessness and through PGD genetic diseases in the offspring could be eliminated.

It is through science and medicine possible to live not only longer, but also healthier, enabling people to live more active lives.

Let us return to the Continuous Mortality Investigation by the UK Actuarial Profession. The uncertainty introduced in the mortality rates pose us three difficult questions on social security.

How will medical information diffuse in society? Will doctors inform their patients of new opportunities? This is not only because of cost focused administrators, but also because it implies changes in the nature of health care. We need to explain the benefits of science and a liberal health care policy better.

A study made by Cutler and McClellan in 2001 compared the costs raised by technology during a time span of 20 years to the extra life quality gained per year of life and found that the costs actually sank. Every dollar spent on new medicines for cardiovascular diseases gave 7 dollars back in life quality. The costs of health care and old age diminish but only if you consider the revenues gained, and the planned economies of the European social model's health care and social security only see costs. Prices show the profits, as Ludwig von Mises, would have pointed out.

Another question is about the effects of uncertainty on the private insurance sector vs. the effects of uncertainty on the government's pension schemes. Uncertain future projections can be handled relatively easily by an insurer through cross insurance and adapting the premium structure. But state systems often lack this flexibility and generally suffer from slow adaptation.



This is our opportunity! But we cannot win by an austerity programme. We need to communicate a positive vision. People have put their trust in

the political solutions and feel rightfully insecure about if the politicians will fulfil their obligations.

As Paul Evans of INSEAD said "people are not against change, they are against being prodded into change" and if we are perceived as prodding them into an insecure, infirm old age we will have a politically powerful group against us. We are not the ones that "dismantle the safety net". We are the ones that do not leave anyone behind.

A classical theme in literature is of a society where a cure for ageing has been discovered and everybody dies of ennui. In a society dominated by ageism it might be true, where otherwise healthy elderly are excluded from society and the work market.

The American author F. Scott Fitzgerald pointed out that "the problem with the American dream is that it does not have second act". It is so in Europe too, and it is our political task to enable a second act. Elders are less static than before, as shown by Viacom's recent study on generational attitudes. Some elderly adapt to new technologies and change better than some youth. The combination of a sharp mind, youthful body with maturity and experience might open for more radical reinvention of society, careers and identity than we think.

I think we do not need "more jobs", that is the defensive stance. We need more options to express the creativity inherent in humanity.

A long life opens up for new phases in life, where traditional study, retirement and work could be alternated. If we can show that this is possible the Europeans will dismantle the social security pyramid themselves, because they have found an idea that offer them better options.

#### Further reading

UK Actuarial Profession. Continuous Mortality Investigation

[http://www.actuaries.org.uk/Display\\_Page.cgi?url=/pr-rels/2005/050930mortality.html](http://www.actuaries.org.uk/Display_Page.cgi?url=/pr-rels/2005/050930mortality.html)

Jim Oeppen & John Vaupel Broken Limits to Life Expectancy Science 2002, 296: pages 1029-1031

J.P. Newhouse "An iconoclastic view of Health Cost Containment" Health Affairs (Supplement 1993), pages 152- 171