

# Summary

Between 1980 and 2005, the body weight of the proportion of the population between the ages of 35 and 44 increased on average by 10 per cent. The proportion of the population that is overweight or obese is approximately double that of twenty years ago. The increase in overweight and obesity appears to have levelled out in recent years. But today, around twice as many ten-year-olds have a high body weight compared with the mid-1980s. This means that adults begin their 'weight career' at a higher weight level. In adulthood, the population puts on an average of two kilos per decade. Although the increase is levelling out among young people, about 35 age groups with a higher starting weight at adulthood will raise the average for decades to come. This report outlines the causes and consequences of weight gain, for individuals and for society.

## Causes

There are several causes of weight gain, the main one being an increased intake of calories. This increased intake is related to the lower price of calories, which along with increased disposable incomes means that the food share of household expenditure is falling. Changing relative prices, such as animal products becoming relatively cheaper than vegetable products and the relative price of sweeteners falling, leads to higher energy content per unit of food or beverage consumed.

Changing market regulations (leading, for example, to longer opening hours) increase access to calories. Increased physical access to food combined with a greater lack of time leads to a greater share of food being consumed outside the home and in the form of industrially processed food. This often results in a high energy content and higher costs for consumers of obtaining

information about nutritional value. Alcohol corresponds to just under 15 per cent of the increased caloric consumption that occurred between 1980 and 2005.

Weight gain has clear exogenous causes, such as technological developments. Between 1970 and 2008 the number of personal vehicle kilometres per person and year increased by 53 per cent, while the change in the number kilometres walked or cycled was negligible. This means that individuals' increased geographical mobility largely consists of sedentary activity. Sparse areas and car dependence lead to low caloric expenditure. The modern-day lifestyle means that many people sit still in front of screens. Time spent in front of the television amounts to an average of two and a half hours per day and has increased markedly. In the long run, if today's patterns continue, people will spend more of their lives watching television than working.

Weight is also associated with endogenous norms in households and social groups. Individuals are affected by norms and role models in their surroundings. Weight norms change, and can contribute to establishing unhealthy role models. In groups with a strong social and economic position the cost of overweight and obesity is higher in terms of social stigma. Educational level is also associated with overweight and obesity in that shorter education means poorer chances of acquiring knowledge about factors that are important for health. Stress and workplace subordination probably also contribute to higher weight. Lack of willpower is another important cause of obesity. The individual's degree of short-termism (time inconsistency) is a particularly significant factor. An increased supply of readily available, cheap food requires that people have greater self-control.

### Consequences

Overweight and obesity affect both those who are overweight or obese and others in society. Naturally, the most serious consequences are for those who are overweight or obese. A person with a body mass index (BMI) of between 25 and 29.9 is overweight. A person with a BMI of 30 or more is obese, which shortens life. A middle-aged person whose BMI does not increase from 28 to 32 extends their life expectancy by two years. There is a link between overweight/obesity and diabetes, cancer diseases,

cardio-vascular diseases, gallbladder disease, arthrosis and chronic back pain.

The cost of obesity for the individual, calculated as three years of life lost, can be estimated at SEK 2.1 million. If obesity leads to three years of life lost, the total individual cost in Sweden can be estimated at around SEK 35 billion per year. This estimate does not include those who are overweight and it is also uncertain due to a lack of information on years of life lost for Swedes with weight problems. In addition, obese individuals lose out in terms of productivity and social relations.

In 2003, loss of production (due to sickness absence) and health care costs due to overweight and obesity amounted to SEK 15 billion. By 2020, these costs may rise by between 40 and more than 80 per cent. The individual's age affects how great the impact is on public expenditure. The ages of obese individuals are unknown. This means that the effects on public finances of overweight and obesity are unclear.

With an autonomous pension system, loss of production due to premature death leads to lower pensions for other pensioners if loss of production results in reduced growth. At the same time, premature death means that pension rights are not used, which creates survivor bonuses for other pensioners.

#### *Five reasons for state intervention*

The delicate balance is how much the state should care about production and consumption of calories and attempt to influence people's lifestyles. What are the arguments for state intervention?

The first argument is that overweight and obesity cause classic externalities in the form of costs that are not borne by those who cause them, but by others or by society at large. Public sector costs for health care and social insurance as a result of overweight and obesity alone have been estimated at SEK 15 billion or 0.6 per cent of GDP (2003).

Another argument is the 'peer group effect'. Norms that are created within social groups such as sex, class, ethnic groups and within the family have positive or negative external effects on the health of others. Influencing the diet and activity habits of individuals has an effect on those around them, such as children and relatives. Individuals make decisions concerning, for example,

caloric consumption based on how other people consume, and therefore weight is also affected by the behaviour of others. Other people's weight affects one's own weight.

A third argument for state intervention is paternalistic altruism. People may be willing to pay to help those who harm themselves. However, this willingness to help others is much more likely to exist if those who pay know how the resources are used. This problem is particularly relevant in situations where the donors may suspect that the recipients lack self-control. The public sector has a greater opportunity than others to use paternalistic measures and the presence of paternalistic altruism thus becomes a reason for public intervention.

A fourth reason for intervention may be the high costs of obtaining information on food content. Do producers exploit their information advantage to increase the consumption of food that is cheap to produce but perhaps less healthy? At the same time, does the individual have information about the conditions for their own health and the implications of technological developments, changing price relations and lower caloric needs as they age?

The fifth example is the problem of people's self-control, also known as time inconsistency. A lack of self-control causes individuals as decision-makers to behave irrationally. Combined with preferences for consuming a harmful product, or a harmful amount of a product, this produces a time inconsistency problem. The average individual has self-control problems and overestimates their ability to exercise self-control.

## Conclusions

There are several reasons for the state to do something about the weight trap. Unfortunately, there is a lack of adequate information at present to be able to determine with any certainty which measures are the most appropriate. The fact that it is difficult for people who are overweight or obese to return to normal weight indicates that preventive measures are preferable to reactive measures.

Measures directed at school children have been found to influence and even reverse negative trends as regards the proportion of overweight or obese children.

Another possible measure is targeted or universal taxes. These have both advantages and disadvantages. 'Fat taxes' influence consumption but at times also have undesired effects. However, in addition to the direct economic signal to consumers, taxes are also a normative signal. What is more, they generate revenues that can be used for other types of measures.

Research shows that investments in, for example, cycle lanes are cost-effective. Another advantage of this type of measure is that it does not interfere with personal freedom but simply enables or stimulates a more active everyday life.

The fourth type of measure discussed in the report deals with general public health examinations of the adult population; these have been conducted in Västerbotten and have proved effective. Because the problem of overweight and obesity affects such a large proportion of the population, it does not suffice to focus on defined groups of high-risk individuals. To be able to influence the average groups, large parts of the population need to be influenced.