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# The economics of getting thin

## Chief economist's comment

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- The proportion of adults with obesity has doubled since 1990. GLP-1 drugs offer treatment for obesity, and can also be used "recreationally" by people who are not obese but wish to lose weight for aesthetic reasons. These different uses have different economic consequences.
- Obese and recreational users of these drugs will redistribute spending (giving to pharmaceutical companies, taking away from other areas of the economy). Savings rates may fall to partially finance medication (a modest net economic stimulus).
- Obese patients taking these drugs should become more productive employees—being less subject to prejudice, less likely to be absent from work, and more likely to be productive at work. Recreational users of these drugs may also experience some of these benefits.
- Social prejudices around weight, the high income threshold to use these drugs recreationally, and the amplification of social media may increase divisions in society.


In the future, the traditional (and often ineffectual) new year's resolution of reducing weight may not have to rely on will-power and dieting. The diabetic drug known as GLP-1 has been shown to significantly reduce obesity, and provide related health benefits. At the moment this is mainly taken as a weekly injection, but it could potentially be taken in pill form in the future. A pill version already exists for diabetic treatments. Obesity has rapidly grown as a problem in both developed and some emerging markets, and with so many people potentially affected, a miracle "diet pill" will have economic consequences.

There are three separate economic impacts from a diet pill that actually works: consumption; labor markets; equality and society. The net effect should be economically positive, but social inequality could do economic damage.

## What does GLP-1 do?

A Chief Economist's comment is no place to start describing pharmaceuticals in detail. However, the way in which GLP-1 therapies act makes a difference to the economic consequences.

The most important economic characteristic of GLP-1 therapy is that once started the patient needs to continue with the medication if they are to avoid regaining weight. This differs from things like having a stomach band fitted, to reduce the physical ability to consume food. The diet pill option is an ongoing rather than a one-off expense—a Spotify subscription model rather than a download from iTunes.

GLP-1 therapy works through stimulating the secretion of insulin, which helps to suppress the appetite of the consumer for food and (it appears) alcohol. The therapy works best if there is also a change in lifestyle, for example taking more exercise. Consumers will lose weight even without a lifestyle change, however.

GLP-1 therapy can be used to treat genuine cases of obesity. However, it is also possible that it is used in what might be termed a "recreational" way—by people who wish to lose weight but who do not suffer from obesity. The recreational use would be an alternative to more traditional methods of weight control.

Recreational use is far less likely to be paid for by medical insurance (as there is no medical necessity). Medical necessity, using obesity criteria, is already used to ration access to GLP-1 drugs in Germany and the UK. In the US, over a third of spending on *obesity* treatment (i.e., not recreational use) is not covered by insurance, and it is estimated that only one in five adults have insurance that would cover anti-obesity medication.

## The scale of the problem

The World Health Organization estimates that one in every eight people in the world are obese—around 890 million people. That represents a large group of people whose consumption habits could potentially be affected by medication, if they have access to it. The rate of obesity among adults has doubled since 1990. This is not that surprising—in real terms global GDP per person (a proxy for living standards) has almost trebled.

The number of people who are considered overweight (including those who are considered obese) is around 2,500 million people. There is thus an even larger potential market for recreational use of anti-obesity medication.

## Effects: Changing consumption patterns

When consumers want to purchase a new product they have, simplistically, one of three ways to pay for the new item. Consumers can:

- try and raise their income to cover the cost
- borrow or use savings
- cut back spending on other products.

At the moment, GLP-1 medication is not cheap if purchased by a private individual. Wegovy injections (a GLP-1 drug licensed for weight control) cost around USD1,300 per month in the US, and USD 328 per month in Germany. The US price to insurers is lower—and an insured patient will pay a lower price still—but recreational users are less likely to receive GLP-1 treatments under insurance plans. In most economies the price for recreational use is likely to be higher than the price paid for medically approved obesity treatment—in the UK patients do not pay when prescribed GLP-1 to treat obesity (using the National Health Service), but private patients can pay USD 366 per month for recreational use. Shortages in the supply of GLP-1 drugs mean that the industry expects demand to exceed supply for several years suggesting little urgency to reduce prices. Over time, anti-obesity and recreational use of GLP-1 may become more affordable, if the price:income ratio declines as personal incomes increase. Insurance coverage may also expand if GLP-1 is identified as treating a wider range of illnesses, lowering the costs to individual insured consumers.

While reducing obesity will have labor market implications (as the next section details), it is unlikely to raise an individual's post-tax income by enough to meet the expense of paying market prices for GLP-1 drugs. Recreational use may also have limited labor market implications, but the income effect will be even more muted than for reducing obesity. For those whose treatment is not fully covered by medical insurance, this is too large a cost to be met by income change.

Reducing savings or increasing borrowings are also a relatively unlikely solution, at least for the whole cost. Because GLP-1 therapy is ongoing, this is not something that can be financed by breaking open the piggy bank and using the stock of savings. When the savings run out, the consumer would regain weight. Borrowing ever more money to stay thin is also not economically viable. A US consumer without insurance cover would have to be saving over USD 1,300 per month to be able to finance treatment by lowering their monthly savings rate. However, it seems plausible that consumer may cover some of the cost of medication through a lower savings rate. If that happens, the effect is a boost to economic growth (lower savings and higher consumption is growth positive).

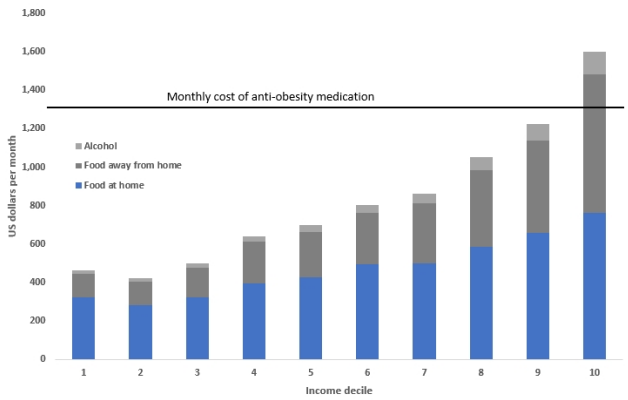
This means that obese consumers not covered by insurance and those looking to use GLP-1 drugs recreationally will have to alter consumption patterns to be able to afford treatment. The consumption effect of the drugs are therefore more about redistributing economic activity in the economy—more money given to pharmaceutical companies, less money spent in other parts of the economy.

Of course the seemingly obvious solution is that consumers taking diet pills will naturally spend less on food. Over eating is a form of food waste (people are consuming more calories than they actually need), and suppressing the desire to eat will naturally lower the calories purchased and wasted. Unfortunately the mathematics of this does not

add up. As the following chart shows, only the very richest households in society have food bills close to the cost of obesity treatment. It is also worth stressing that the cost of treatment is for one person, and the food spending is for a *household* of people.

## Cutting back on food will not fund medication at current prices

US household food spend per month by income group (2022) versus cost of one month's dose of GLP-1 medication for one person




Source: US Consumer expenditure survey

It is also worth emphasizing that (economically speaking) the food that consumers pay for is not the same thing as food in terms of calorie content. Cutting calorie intake by 10% need not mean a cut in food spending of 10%. The food that developed economy consumers purchase has little to do with food content, and a lot to do with processing, packaging, retail, and so forth. Buying food in a restaurant adds another layer of expense unrelated to the calorie content. A nouvelle cuisine dish of mushroom foam and tarragon leaves does not necessarily have a high calorie content, but the price on a restaurant menu is likely to be high.

Some decline in food spending is to be expected with both anti-obesity and recreational use of GLP-1 drugs, but it is not likely to be proportionate to the decline in calorie consumption. In terms of food and alcohol consumption, it is likely that spending on high frequency, often calorie intensive food and snacks will be cut back. The impulse buy of a mid-morning Snickers bar (the main protein source for many economists) is less likely if the impulse to eat is chemically curbed. Calorie intensive fast food may be less appealing. But supermarkets will probably be able to limit falling food sales *values*. Consumers will still buy food that they then throw away uneaten, and retailers will no doubt try to push consumers toward higher margin, smaller, lower calorie content items. (Of course, retailers that are underperforming may find GLP-1 a convenient excuse for their poor performance). As a result, the amount of money that consumers spend on food overall is unlikely to fall too dramatically in the long term even if the composition of the shopping basket alters.

As anti-obesity medication should reduce the illnesses associated with obesity, spending on treatments for obesity-related illnesses should decline in the future. This represents a switch from paying for one kind of drug to paying for another kind of drug, albeit with a tendency for the patient to pay for medication now to avoid paying for medication later. However, patterns of medical spending are not quite so clear as this story suggests. An obese consumer who loses weight may demand other forms of medical spending that their previous weight prevented them from accessing (surgical procedures, for instance).

While the shifting demand patterns for medical products and procedures may matter to specific pharmaceuticals, the overall macroeconomic effect of this is limited. The question is whether the reduced spending on future medication to treat obesity-related illnesses offsets the (hopefully prolonged) lifetime commitment to spending on anti-obesity medication. Recreational users of these drugs are not likely to significantly change their risk of future illness —so for recreational users the amount of money given to pharmaceutical companies over time will increase.

Consumers taking diet pills, whether to tackle obesity or recreationally, may increase spending in others areas as a consequence. Joining a gym will maximize the effects of the diet pills. Exercising in a gym may be more attractive as patients become less self-conscious about their weight. However, gym memberships cost money, and with a limited household budget more spend on exercising will necessitate less being spent elsewhere. New clothes will have to be bought—although this is a one-off additional expense.

There may be other areas where spending increases as mental attitudes change with weight loss (spending on vacations or entertainment, if people feel more confident about appearing in public, or enjoy better overall health that increases mobility). This applies to both obese and recreational users of GLP-1, and is in addition to the recent trend to favor fun over spending on goods. To the extent that spending in these areas also increases, consumers will have to further cut spending in other areas of the economy, and that will be especially significant where the obesity treatments are not covered by insurance.

From an economic point of view the increase in spending on obesity treatments is likely to be redistributive rather than an outright positive or negative. To the extent savings rates fall there is a mild economic stimulus, but generally introducing the medication represents a transfer of income to pharmaceutical companies from other areas of the economy.

## Effects: Changing labor markets

Obesity changes labor markets, and so a medical treatment that is effective in reducing obesity is also likely to change labor markets. The labor market changes wrought by diet pills should be economically positive.

Studies from around the world have shown that there is a prejudice against people who are obese or significantly overweight. This applies in particular to women. Such people are less likely to be employed (wasting their potential skills). They are less likely to be recruited to jobs that have higher social status, and are also less likely to be hired in service sector roles. That damages productivity, because the right person for a job may be passed over on irrational grounds (a person's weight rarely matters to their ability to do a job). They are also likely to be paid less than equivalent lighter weight colleagues with the same qualifications. That prejudice may demoralize workers—why try harder if your weight prevents you from getting a pay rise? The issue of prejudice is something that can affect both obese and recreational users of GLP-1, and the damage is proportional to the prejudice of others not the bodyweight of the targeted individual.

Clearly, the problem here is not the weight of the individual employee, but the prejudice of society that classifies slim as "good" and obese or overweight as "bad" for worker effectiveness. It would be better for the world if it were the prejudice that was tackled as representing irrational and harmful thinking. Successfully tackling prejudice about bodyweight seems unlikely to happen—at least in the short term. Reducing the trigger for that prejudice by reducing a worker's weight may produce productivity gains. There is a caveat that any overweight or obese worker who cannot afford medication may be subject to increased prejudice, as they become ever more of a minority in the workplace.

There is also the fact that some overweight and obese workers may be less productive because of medical problems arising from their weight. This is more likely to be an issue for obese workers, and recreational users of GLP-1 may be less impacted. These medical problems can affect worker performance in one of two ways—either the worker is on sick leave (absent from work), or the worker is at work, but illness means that they are less productive. While prejudice is a problem with other people's irrational perceptions, in this case there is a genuine hit to productivity arising from the health of the worker. Clearly if the illnesses associated with obesity can be reduced because obesity is reduced, both of these causes of lower productivity can be countered.

## Effects: Equality and society

There are three characteristics surrounding anti-obesity medication which together threaten increased social division.

- In most societies there is a prejudice against people who are overweight or obese, and that is particularly the case for women.
- The more anti-obesity drugs are used recreationally rather than to treat clinical obesity, the more likely it is that the patient will have to pay for the drugs themselves. This will restrict recreational access to higher income groups.
- Social media has elevated the importance of physical appearance and (at least for some groups) increased the perceived importance of looking a certain way.

Being obese or overweight is, by its nature, a visible characteristic. This makes it an easy target for prejudice. Social media, which often elevates the importance associated with physical appearance, can further increase the negative consequences associated with prejudice.

This is where social divisions coming from the recreational use of anti-obesity drugs can become significant. The use of GLP-1 medication to lose weight when the patient is not obese is likely to be personally paid for by the patient. Insurance schemes and social healthcare are already setting minimum health condition qualifications to prescribe these drugs that exclude recreational use.

At the risk of oversimplifying, the recreational use of diet pills risks associating being overweight with being lower income (because of the cost), and being lower social status (because of the role of social media). These divisions already exist. In developed societies lower income groups are more prone to obesity. Social media's role in creating unrealistic expectations about physical appearance is well documented. The risk is that by making it easier for higher income people to change their appearance, these trends become amplified. If stereotypical prejudices are then overlaid—for example "overweight people are lazy"—the economic and social demonization of overweight people may increase.

Equally, there is a risk of increased resentment from people unable to afford access to "miracle" diet pills. The inequalities of the medical system, even if confined to recreational use of anti-obesity drugs, emphasizes wider concerns with income inequality in society. Essentially the economics of being thin becomes a very visible manifestation of inequality.

# Appendix

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