

Planned obsolescence of products

Prevalence – Manifestations – Causes – Remedies

Contents

When did planned obsolescence first appear?	1
Why do so many everyday products break down so much earlier today?	2
Factors that encourage planned obsolescence	3
The various types of planned obsolescence	6
The role of engineers	9
Who benefits from planned obsolescence?	10
Side note: Is planned obsolescence necessary for economic growth and full employment?	11
Planned obsolescence and advertising	12
Political measures to combat planned obsolescence	14

1. When did planned obsolescence first appear?

'Planned obsolescence' refers to the planned premature breakdown of products due to wear and tear that would theoretically be capable of **functioning for much longer**. It is a fairly recent phenomenon, one that is estimated to have emerged less than a century ago, initially in the United States.¹ One of the most impressive examples of deliberate and planned obsolescence in industry is probably also one of the oldest in business history and involves the US automotive industry of the early 1920s.²

Henry Ford was an unwavering advocate of quality and product longevity, a full-blooded engineer for whom **product integrity** was a clear priority. For him, profits were secondary. He vehemently resisted all notions of a shortened product lifespan or premature obsolescence in his automobiles,³ an attitude that made him immensely successful for a very long time. In 1921 his Model T, which was available only in black and sold more than 15 million in total, occupied a 61 per cent share of the US car market.⁴ At this time more than 55 per cent of all US households already owned a car.⁵

¹ 'Deliberate obsolescence in all its forms – technological, psychological, or planned – is a uniquely American invention.' Slade, p. 3.

² Cf. also Reuß/Dannoritzer, p. 29 ff.

³ Slade, p. 32 f. In 1922 Henry Ford said, 'It is considered good manufacturing practice, and not bad ethics, occasionally to change designs so that old models will **become obsolete** and new ones will have the chance to be bought. ... We have been told ... that this is **clever business**, that the object of business ought to be to get people to buy frequently and that it is bad business to try to make anything that will last forever, because when once a man is sold a car he will not buy again. Our principle of business is precisely the opposite. We cannot conceive how to serve the consumer unless we make for him something that, so far as we can provide, will last forever. ... **It does not please us to have a buyer's car wear out or become obsolete. We want the man who buys one of our cars never to have to buy another. We never make an improvement that renders any previous model obsolete.**'

Author's emphasis

⁴ Slade, p. 34; cf. also Landes, p. 411

⁵ Slade, p. 31

Ford's main competitor in the early 1920s was General Motors. As a student at the Massachusetts Institute of Technology (MIT) in Cambridge, Boston, GM's top executive **Alfred Sloan** had absorbed quite a different philosophy: in a Darwinian competitive setting, new models and technologies **ought to** be applied in order to make old products obsolete, which would produce a competitive advantage and high profit margins for the manufacturing company.⁶ Accordingly, GM invested heavily in design, short product cycles and clever marketing and reinvented the automobile, which was until then merely seen as a means of transport, as a lifestyle product. In doing so, GM deliberately shortened the lifespan of its cars ('*Our big job is to hasten obsolescence*').⁷ This strategy turned out to be immensely successful. Within just a few years Ford's market share shrunk from over 60 to 30 per cent, and in spring 1927 the last Model T rolled off the production line.

This historical example is impressive evidence of how a company that prefers to manufacture long-life products is penalised through its competitors' clever marketing, and how introducing products with a shorter lifespan can increase a manufacturer's competitive position.

2. Why do so many everyday products break down so much earlier today?

The main reason why so many products are so much less durable today, then, is the **economic incentives** inherent in the market. An example:

Let's assume that two major manufacturers dominate the market for **electric razors**, A and B. Since practically every German man who prefers to dry-shave already has an electric razor at home, the market is largely saturated and growth is virtually zero. Let's also assume the average lifespan of an electric razor is ten years. Revenues are stagnating and the manufacturers' margins are under pressure.

To increase its **return on investment**, manufacturer A decides to develop a new series of models at lower cost by using cheaper materials and/or lowering product quality, which brings down the average lifespan of its products from ten years to around nine. To ensure this does not endanger sales, the reduction in lifespan has to be so subtle that it goes **unnoticed** by consumers. After all, to be frank, which man can remember exactly whether he bought his last razor nine or ten years ago?

This product development and marketing strategy gives manufacturer A **two advantages**:

1. **Lower costs** thanks to the use of cheaper materials and/or less careful workmanship, which immediately boosts A's profit margins and return on investment.
2. **Higher sales** after a few years thanks to the products' shorter lifespan. A's profit margins grow yet again, as does its market share – provided its customers remain loyal to the brand.

Manufacturer B observes A's success and **greater financial strength**, recognises that its **market shares are in danger**,⁸ and decides to pursue the same strategy. B starts to use cheaper materials and pay less attention to workmanship. This, too, shortens the lifespan of its razors to, say, eight years (another effect that, if at all, is only noticed by consumers very late).

Now manufacturer A may step up its successful strategy, eventually causing its products' lifespan to again drop slightly from one year to the next until, after 20 years, it is half of what it originally was.

However, this can only work if one extremely **important condition** is met: the gradual degradation in product quality must be so subtle that consumers don't notice. In other words, it may not be

⁶ 'Beginning with General Motors, manufacturers invested in research and development departments whose **express mission was to produce »the next best thing«**, and in the process – inevitably – **hasten product extinction**.' Slade, p. 34

⁷ Statement by Harley Earl, at the time one of GM's top managers, Slade, p. 45. Also: '*Sloan did his utmost to find new ways to **decrease durability and increase obsolescence***.' Slade, p. 43, author's emphasis

⁸ '*to gain market share and make a buck*'. Slade, p. 6.

immediately obvious to them. In fact, *Absatzwirtschaft* magazine puts it very succinctly: 'How fast can a product degrade without disappointing the customer?'⁹

In summary, rather than being punished by customers turning away, this kind of gradual quality degradation strategy is actually **rewarded** by the market in the shape of lower costs, higher sales and larger profits. Manufacturers that decline to play this game are **punished** by the market in the shape of lower sales and profits. The economic term for this is Prisoner's Dilemma, a problem that is approached using public choice and/or game theory.¹⁰ A strategy that may be beneficial to an individual firm is disadvantageous for the general public. Manufacturers that go down this road are only in danger of damaging their reputation if the decline in quality is too pronounced, too obvious or too **visible**.

The underlying problem is that every single (market) participant takes a personal, rational decision to do something that's advantageous to them, which produces an unfavourable outcome for everyone else. Let's use a visit to the theatre or a concert hall to illustrate. For an individual member of the audience it may be a rational act to stand up to get a better view, for instance if there's a tall person sitting in front. If they do stand up, the person behind them has to stand up as well because their view is blocked. The potential outcome of such a process is that in the end, the entire audience is standing.¹¹ For the individual spectator, standing up is the rational thing to do - but if everyone does it, everyone suffers. Whenever such a process takes place in economics or indeed in everyday life, the result is a **collective misjudgement**.

The result is a more or less slow, **gradual shortening of product lifespans** that for a long time goes unnoticed by consumers. But eventually consumers do notice, which is when they start grumbling about the fact that more and more products keep breaking down sooner. And this is exactly the situation we appear to be in today.

3. Factors that encourage planned obsolescence

The factors that most strongly encourage planned obsolescence are

1. saturated markets and/or overcapacity;
2. intransparent markets, too many products and/or excessive product diversity;
3. strong focus on the capital market and/or strong profit orientation on the part of manufacturers;
4. and management's attitude to ethics and morals.

Re. 1.) Saturated or highly competitive **markets** with a tendency towards **overcapacity** produce a strong economic incentive to pursue a planned obsolescence strategy, a phenomenon described in impressive terms by Vance Packard in *The Nagging Prospect of Saturation*, part of his seminal work *The Waste Makers* (1960).¹² As long as there is unchecked growth in demand so that production can barely keep up, there is no economic incentive to boost profitability by reducing product lifespans.

Let's return to the example of the US automotive industry, which faced with near market saturation and excessive overcapacity already in the late 1950s,¹³ practically forcing manufactures to engage in a

⁹Slade, p. 19; cf. also Landes, p. 104 'Maximum sales volume demands the cheapest construction for the briefest interval the buying public will tolerate.'

¹⁰ Cf. Kirsch, p. 176 ff. or Mueller, p. 498-500

¹¹ Cf. Hirsch, p. 5: 'If everyone stands on tiptoe, no one sees better.'

¹² Packard, p. 25 ff.

¹³ In 1959, US automotive companies' production capacities stood at approximately 8 million vehicles, although sales were only at around 4 million. In 1959, then, capacity utilisation in this crucial industry was just 50 per cent. In other words, capacity was twice what it should have been. Packard, p. 26

race for ever shorter lifespans for vehicles and spare parts.¹⁴ Chassis, tires, exhaust pipes and so forth were deliberately constructed to break down sooner than they should have.¹⁵ At the same time, over in France the market was in a completely different situation. There was strong growth in demand for automobiles that French manufacturers were unable to fulfil, resulting in undercapacity and supply bottlenecks. For instance, the waiting time for Citroen's Deux Chevaux model was 18 months. As a result, the lifespan of French automobiles was several times that of their US counterparts.¹⁶

In the last few decades, most product markets in most industrialised countries have become largely saturated, with a strong tendency towards overcapacity in a large number of sectors.¹⁷ These trends have strongly encouraged the spread of planned obsolescence over the past years.

Re. 2.) Intransparent markets encourage planned obsolescence since they make it more difficult for customers to sanction bad products by buying elsewhere. The more intransparent a market, the easier it is for manufacturers to shorten their products' lifespan without the consumer noticing. In light of this, it's worth asking why **consumer watchdog publications** such as Germany's *Stiftung Warentest* or the UK's *Which?* magazine don't take action. The answer is obvious. If the reduction in durability is only slight, it's difficult to identify and prove. In addition, durability is only one of many product features. Even if a consumer magazine were to detect a slightly shorter lifespan in a given product, this would not necessarily impact to any great extent on its overall rating. What's more, most consumer magazines operate according to the **best-in-class** principle, meaning that they compare the products that are currently on the market. However, what is really necessary is a product analysis that spans a longer period and can compare the lifespan of the same range of products in the 1960s, 1970s, and today.

Finally, countless new variations of the same technical product are constantly being launched on the market. For instance, if you take a look at a comparison of TV sets in a given consumer magazine and then go to make your purchase, you will find that many of the models in the magazine are no longer on the shelf. This policy of repeatedly launching new models reduces market transparency to a minimum and confuses the consumer. The use of a wide range of emotional, largely uninformative advertising messages reinforces this deliberate smokescreening strategy.¹⁸ The complexity and diversity of available products has risen drastically in recent decades. The risk that manufacturers will be penalised by customers going elsewhere has declined, raising the incentive for them to opt for planned obsolescence. All of these factors have strongly contributed to the spread of planned obsolescence.

Re. 3.) Capital market and/or strong profit orientation It's no coincidence that practically all prominent cases of deliberate, planned obsolescence that have recently come to light involve large corporations¹⁹ – they are particularly profit-oriented. Stock-listed corporations, in particular, are under immense pressure from capital markets to perform adequately, so they feel forced to engage in more or less ethical measures to boost profits.

¹⁴ Cf. Slade, p. 153

¹⁵ Cf. Packard, p. 102 ff.

¹⁶ Cf. Packard, p. 109

¹⁷ The IMF has estimated an output gap in advanced economies of more than 10 per cent of GDP compared to the pre-crisis years. The figure for the US is estimated at 5 per cent of GDP. Cf. IWF, World Economic Outlook, 2012, p. 10 and 13.

¹⁸ On the role of advertising, see below.

¹⁹ E.g., the Phoebus light bulb cartel of 1924, which involved **Osram**, **Philips** and **General Electric**, among others; **General Motors** vs. Ford in the 1920s, see above; **DuPont**'s apparently deliberately planned reduction in durability of nylon pantyhose in the 1940s; the deliberate reduction in durability of flashlights by **General Electric**; and the apparently deliberate reduction in durability of iPods in 2003 by **Apple**, etc. See below for more details.

Neither is it a coincidence that Henry Ford is generally held up as an example of someone who prioritised product integrity above all else, with profits taking a back seat, if at all.²⁰ This is borne out, for instance, by the documented fact that one day in 1914 he spontaneously decided to double his workers' wages. Although Ford was a large corporation at the time, it followed certain ethical principles and was neither capital market- nor profit-oriented. In fact, Henry Ford's lack of capital market orientation was so pronounced that for a long time he refused to take out any kind of credit. It was only the threat of bankruptcy that in 1927 forced him, after 19 years as a trailblazer in the automotive industry, to adopt what he thought of as the less ethical, profit-oriented strategy of his competitor General Motors, one that was being taught at leading US universities at the time.²¹

The stronger a company's profit and capital market focus – essentially, its interest in profit maximisation – the more tempted it will tend to be to opt for planned obsolescence since, as shown above, this produces indisputable benefits from a purely economic point of view. The internationalisation of capital markets in recent decades and the global spread of the shareholder value concept, originally a US notion, since the 1990s has clearly upped the pressure on executives to maximise their profits.²² All of this has strongly encouraged the popularity of planned obsolescence.

However, there are still a large number of owner-operated medium-sized companies today that continue to produce excellent and long-lasting products. It would hence be unreasonable to suspect all manufacturers of across-the-board planned obsolescence. All cases deserve careful analysis.

Re. 4.) Ethical considerations Finally, when deciding whether to pursue a planned obsolescence strategy and if so to what extent, ethical considerations come into play, as the example of Ford vs. General Motors has already suggested. Ford had ethical reservations, while Sloan did not. General Motors emerged as the winner. When planned obsolescence emerged as a mass phenomenon in the US of the 1950s, the engineers involved in designing the products in question became highly concerned about the ethical implications, as trade journals from that period have documented.²³

A fair rule of thumb would be to say that the larger the company, the stronger its profit and capital market orientation and the more anonymous shareholders in whose interest the company is managed, the less consideration is given to ethical issues and the stronger the management's vulnerability to planned obsolescence. Smaller and medium-sized businesses whose owner-managers feel personally responsible for the products they sell will normally be much less tempted to opt for planned obsolescence. In fact there are many examples of managers who prefer to act in an ethical and responsible manner and continue producing high-quality durable products.

Over the last few generations, all of the four factors mentioned here – 1. saturated markets and/or overcapacity, 2. intransparent markets, 2. capital market and/or profit orientation and 4. ethical standards have developed in a way that has very strongly encouraged the emergence and subsequent spread of planned obsolescence. Today, it is a mass phenomenon.

As early as in 1958 one of the best known industrial design engineers in the US, Brooks Stevens (1911-1995), was quoted as saying, *'Our whole economy is based on planned obsolescence and everybody who can read without moving his lips should know it by now. We make good products, we induce people to buy them, and then next year we deliberately introduce something that will make*

²⁰ *'The integrity of the product was always the first consideration; consumer demand came second, and any thought of profits was incidental.'* Slade, p. 33

²¹ See above: MIT, Cambridge, Boston

²² To quote Slade: *'to gain market share and make a buck. Both goals strike us today as quintessentially American in spirit.'* p. 8, author's emphasis

²³ Cf. Packard, p. 73: *'A number of designing engineers entrusted with shaping United States products meanwhile began showing acute cases of guilty conscience about some of the things they were expected to do. After all, they hadn't been taught during their idealistic days back in college how to build products that would fall apart after an appropriate period of service.'* Author's emphasis

*those products old fashioned, out of date, obsolete. We do that for the soundest reason: to make money.*²⁴ The last three words in the quote say it all.

4. The various types of planned obsolescence

Planned obsolescence has a variety of manifestations, each with its own set of characteristics.

4.1. Degree of premeditation

a. Deliberately planned (premeditated) premature obsolescence

This is the severest form of planned obsolescence, against which **consumers have practically no way to defend themselves**, and is very hard to prove. In fact it's **only** possible when an insider decides to blow the whistle or when internal documents are leaked to the public. It is hard to say how widespread this kind of planned obsolescence is. Known examples:

The Phoebus light bulb cartel of 1924,²⁵ which involved all major international light bulb manufacturers of the day (General Electric, Philips, Osram, Compagnie des Lampes and others). They colluded to deliberately reduce the lifespan of light bulbs from around 2,500 to 1,000 hours. Proof that this was premeditated came in the form of confidential internal documents that later came to light. The line of argumentation brought forward by the manufacturers, namely that they had decided to reduce lifespan in an effort to compromise between efficiency and durability and that all this was to the consumers' benefit,²⁶ was very untypical of general cartel practices of this age.²⁷

In the 1940s the DuPont corporation appears to have deliberately shortened the durability of women's nylon pantyhose, its own invention, by changing the chemical composition of the material.²⁸

In the early 2000s Apple began to produce iPods that had an inbuilt, non-replaceable battery whose lifespan appears to have been deliberately limited to 18 months. In 2003 a class action suit was filed against the manufacturer in the US. The parties settled out of court, with Apple pledging to offer free replacements for all iPods sold plus an extended warranty period of 24 rather than 18 months,²⁹ an implicit admission by Apple that this was indeed an instance of planned obsolescence.

Some printers appear to have been engineered to stop working once a certain number of pages have been processed.

There are frequent complaints from consumers concerning mobile phones, toasters, washing machines, TV sets, cameras, printers, DVD recorders, electric toothbrushes and irons etc. claiming that these devices go out of service just after the warranty period expires.³⁰ Whether or not these are all cases of premeditated obsolescence or maybe a milder variant thereof, or none of the above, has to be verified on a case-by-case basis. As said above, genuine premeditation is very hard to prove.

²⁴ Slade, p. 153

²⁵ Cf. Berz/Höge/Krajewski, *Das Glühbirnenbuch*, 2011 or Reuß/Dannoritzer, p. 13 ff

²⁶ Jörg Albrecht, *Frankfurter Allgemeine Sonntagszeitung*, 24 March 2013

²⁷ The author's thesis was on cartel price policies between 1924 and 1932. Why did the cartel set up product control units and put them under strict instructions to impose fines on members whose products' lifespan was longer than agreed? A selfless move to force consumers to buy these amazing products?

²⁸ Cf. Reuß/ Dannoritzer, p.63, who quote the daughter of a then DuPont engineer: *'The men in his department had to go back to the drawing board and try to change the fibres such that the fabric would start to ladder and the pantyhose would have to be thrown out.'*

²⁹ Cf. *Los Angeles Times*, 24 August 2011

³⁰ www.murks-nein-danke.de

The most frequent method of shortening the lifespan of fully functional products is to use components that stop working before they should – essentially, deliberately engineering the product to have inbuilt weaknesses. This method gained widespread popularity in the US in the 1950s. In 1959 the Wall Street Journal printed an article on the US automotive industry that claimed that '*tire company engineers privately concede tires are wearing out faster these days*',³¹ a statement that is borne out by official documents by US consumer associations at the time. Besides tyres, a wide variety of other components were engineered to have an ever shorter lifespan (e.g., too small electrolytic capacitors, plastic rather than metal, low-grade cotton fibres, etc.). This method appears to be very widespread today, too. Again, it is difficult to prove whether these are all instances of premeditation or rather a response to market conditions (see below).³²

b. Planned premature obsolescence

A milder form of planned obsolescence that to some extent **requires the customer to play along** involves manipulating **fashion and model cycles** in such a way that consumers are encouraged to replace their existing model although it actually still works. Specifically, manufacturers attempt to shorten product cycles to boost their sales. If consumers are unwilling to play this game, manufacturers can accelerate the process by, e.g., removing spare parts and repair services from their product ranges, offering them at a higher price, or taking them off the open market so that customers are forced to buy a newer model when their current device fails.³³ Another strategy is to manipulate consumer behaviour through marketing and advertising. This type of planned premature obsolescence is thought to be extremely widespread to the extent that today, it is a mass phenomenon.³⁴

c. Tacitly (and consciously) accepted rapid obsolescence

When it comes to low-value products, many procurement and product development departments appear to put up with having to sell or work with low-quality, short-lived components, materials or parts since they are cheap to procure. This accepted form of premature obsolescence, which is essentially encouraged by market forces, is considered exceptionally common (see below).

d. Antifeatures – Defective by design

The integration of what are known as antifeatures is a practice that corresponds closely to planned obsolescence. First coined by Benjamin Hill, the term refers to the adaptation of technical functions in devices or in software to ensure they cannot be used as well as they should. As an example, Hill

³¹ Packard, p. 107

³² As a US consumer magazine stated in the late 1950s, '*There seems to be no doubt that bodies for present-day cars could be made to last much longer than they now do, but manufacturers are **fully aware** that if they make their cars too durable, future sales will suffer; consumers will naturally tend to keep their cars longer before turning them in if bodies have well resisted corrosion and other types of damage that mar appearance.*' p. 107, author's emphasis

³³ **Plastic**, a new material, is now used instead of metal and other materials, with manufacturers (rightly) reasoning that it is easier to work with and lighter in weight. However, the disadvantage of plastic is that its lifespan is short, it is not environmentally friendly, and it cannot be repaired. Today, many devices are produced using a single mould or with a sealed casing, so that they can no longer be unscrewed to examine the insides. Previously, even laypeople could take care of minor repairs themselves. In cases where devices can still be opened up and repaired, users often find that the spare parts are too large or too small, or that they have screws or other incompatible features. In many cases it's impossible to obtain spare parts for even recent models, or the spare parts are not useable.

³⁴ '*It's often cheaper to buy a new model even of a very expensive device than to find someone who can repair the old one. In fact, many products are pre-set to wear out fast and only function for a certain period of time so that the customer is forced, or encouraged, to discard the product and buy a new model.*' Braungart/McDonough, p. 48

describes a Microsoft software application of which two versions were launched on the market at very different prices. Both versions were identical, but the cheaper version contained certain features that prevented users from benefiting from the full range of functionalities. Hill refers to these as 'antifeatures'.³⁵

One variation of this is to equip IT devices, for instance, with only a limited number of new technical features although a fuller range would be available that could provide users with a more comfortable experience. This artificially shortens the model cycle, as well as making it impossible to use the devices as originally intended.

Software companies, but also many manufacturers of technical devices appear to make use of such 'tricks and methods in order to deliberately make their products less good than they could be'.³⁶ Commending on antifeatures, the German weekly DIE ZEIT writes, *'This madness is the result of a completely new model of growth. Customers used to spend more money on getting better services. Today, we are increasingly paying for an artificially reduced range of functionalities. It is fair to suggest that corporations have long since stopped spending most of their innovation and research capacities on optimising products. Instead, they prefer to invest in deliberately worsening the quality of their products.'*³⁷ The article goes on to list a number of examples, some of them backed up by scientific evidence. They include Intel, which deliberately launched slower processors on the market; Apple's music store iTunes, which sold tracks with inbuilt digital copy protection that could be removed for an extra charge; and Panasonic, which in 2009 fitted its cameras with a device that prevented users from using cheaper non-Panasonic batteries.³⁸

The Defective by Design movement is working to eliminate this phenomenon, known as digital restrictions management (DRM).³⁹

4.2. B2C versus B2B

Planned obsolescence mainly occurs in the B2C (business to consumer) market, in other words, the private customer market, whereas it is very rare to witness planned obsolescence in the B2B (business to business) segment. After all, when it comes to product knowledge and production methods, in the B2B market buyers and sellers mostly operate on a level playing field. Buyers tend to be highly knowledgeable about products and production methods and are often in a position to influence their suppliers' production workflows. What's more, they have a long memory since all purchases are normally well documented. That is why manufacturers will not normally dare to offer obsolescent products in the B2B market, so here planned obsolescence is a relatively rare phenomenon.

However, when dealing with consumers, manufacturers normally have the upper hand when it comes to product and production knowledge. These parties do not operate on a level playing field; instead, the seller is clearly at an advantage. What is more, consumers generally will not be able to recall the exact lifespan of all of the products they have ever bought. The average German household owns approximately 10,000 products, including around 50 electronic devices.⁴⁰ So the regular consumer will not be able to remember what exactly they bought and when. Naturally, manufacturers are well aware of this.

Planned obsolescence is hence largely a B2C phenomenon; it's very rarely an issue in the B2B market.

³⁵ Hill, 2007

³⁶ Die Zeit, 31 May 2011

³⁷ *ibid.*

³⁸ *ibid.*

³⁹ Cf. www.defectivebydesign.org

⁴⁰ Reischauer, p. 20

4.3 Profit sources: One-off purchases versus follow-up buys versus profitable after-sales transactions

The after-sales trade in disposables (exchange of old shaving blades for new ones, new printer cartridges, etc.) is often extremely profitable. Disposables are auxiliary components inside a product that are subject to wear and tear and hence have to be replaced at regular intervals. In fact, the trade in disposables is often the manufacturer's main source of profit. In that sense, disposables are a form of functional obsolescence.

A good example of this is the Nespresso coffee maker. The purchase price of a Nespresso machine is low compared to that of a high-quality espresso maker. It would appear that Nestlé, the producer, compensates for the low profit margins of its machines through the sale of its own-brand coffee capsules. Economically speaking, then, Nestlé is probably not particularly interested in engineering its coffee makers to break down prematurely. That notwithstanding, fierce competition in the market for espresso makers and capsules means that other manufacturers keep launching new models on the market and encouraging buyers to purchase them by means of psychological or functional obsolescence. Nestlé even went so far as to sue the manufacturers of alternative capsules, albeit unsuccessfully.⁴¹

All told, planned, deliberate or tacitly accepted obsolescence is expected to be exceptionally widespread. It is extremely likely that this is a **mass phenomenon** that infects the vast majority of the products we handle every day. The author estimates that every year, consumers across Germany spend around 100 billion euros unnecessarily because their devices break down prematurely. In other words, if planned obsolescence were eliminated, German households would have around 100 billion euros in extra disposable income every single year.⁴²

5. The role of product engineers

When planning technical products, (development) engineers can fall back on powerful product lifecycle management (PLM) programs⁴³ that allow them to precisely coordinate the lifespan of the individual components inside a device and the interfaces between them. This enables them to calculate exactly how long a given component will continue to function and – as product developers have claimed themselves – they are in the powerful position to integrate some less durable components into the same device.⁴⁴

According to engineers with long-standing industry experience, it is however very rare that products are deliberately engineered to become prematurely obsolescent by fitting them with less durable components. Creating a bad product deliberately, they say, generally goes against the engineering code of ethics. Engineers prefer to speak of a product's 'planned lifespan' rather than of 'planned obsolescence'.⁴⁵ The real problem, they say, is the immense pressure on costs and time to market.

Pressure on costs: Many engineers claim that fierce competition is forcing them to develop practically all new products at minimum cost, which often prevents them from being able to focus on the kind of quality they normally would produce. They regret not being able to build the best products possible, since they are told that 'after all, the products don't have to last for ever'. In any case, they say, they are instructed to ensure that the products survive the statutory warranty period [*translator's note: in Germany, 24 months*]. If the product breaks down afterwards, it's the customer's problem, not the manufacturer's. And if a defective component does turn out to cause the product to stop functioning prematurely, many engineers don't go the trouble of re-engineering the component because they have

⁴¹ Tagesschau, 8 June 2012, <http://www.tagesschau.de/wirtschaft/nespresso108.html>

⁴² Cf. Schridde/Kreiß, p. 63 ff, including a description of how this figure was calculated.

⁴³ E.g., Siemens' Teamcenter or Inneo's Windchill.

⁴⁴ For more examples, cf. Schridde/Kreiß 2013, p. 63 ff.

⁴⁵ Statement by Albert Albers, director of the Institute for Product Engineering in Karlsruhe (IPEK), to n-tv, <http://www.n-tv.de/wissen/Geplante-Obsoleszenz-article6582066.html>

already turned their attention to new developments. So even though **they don't bring it about deliberately**, they essentially **accept premature obsolescence** as a matter of course.

Pressure on time to market: Many engineers have also stated that again due to fierce competition in industry, they are under pressure to bring new developments to market faster and faster, since longer development cycles push up the cost. Many new products have to be engineered in time for them to be presented at a trade show, for instance. The sales department often schedules too little time for engineers to develop a product with due care, so sometimes deadlines cannot be met, which drives up the cost of development and increases the pressure on costs, forcing engineers to work with cheaper materials than they originally intended. This use of lower-grade material (often sourced by aggressive buyers at low cost in Asia)⁴⁶ and/or compromises on workmanship under time pressure translates into a shorter lifespan than originally intended, a situation that is **tacitly accepted** since it is the only way to deal with the pressure on deadlines and cost. After all, the only alternatives would be to either increase prices and be less competitive, or to launch the product later and risk being overtaken by one's competitors.

Conclusion: This is not an attempt to blame 'industry' or certain development engineers, many of whom are greatly dedicated to their work and have a strong sense of integrity. On the contrary, 'industry' and engineers are often **helpless** in the face of dominant market forces. So **what are these market forces?**

6. Who benefits from planned obsolescence?

As demonstrated above, a manufacturer's return on investment rises thanks to planned obsolescence. The beneficiaries, then, are the managers or owners of these companies. Company ownership is extremely imbalanced. For instance, only 4.4 per cent of Germans own a stake in a company,⁴⁷ and only around 10 per cent of German households own company shares.⁴⁸ In other words, around **90 per cent** of all German households have no form of company ownership. In the United States, 93 per cent of company ownership is in the hands of the wealthiest 10 per cent of households, while 80 per cent of investment funds and company shares are held by the wealthiest 10 per cent of U.S. citizens.⁴⁹ The breakdown is similar **in almost all other countries**.

The benefits of planned obsolescence – higher profits – are hence enjoyed by a relatively small number of wealthy persons, while the disadvantage – shorter product lifespan – is suffered by all consumers. So from a **wealth distribution** perspective, planned obsolescence causes the distribution of wealth from a large group to a small group – from all customers who buy products that are afflicted by planned obsolescence to a comparatively small number of wealthy company owners. Large-scale and institutional investors will hence have a certain economic **interest** in driving the market in this direction in order to maximise their return on investment. The question then is: Who determines the rules of the (frequently global) game and according to what criteria?

According to **Joseph Stiglitz**, a Nobel Prize in Economic Sciences laureate, the wealthiest 1 per cent of the population choose the rules of the game in line with their economic interests: *'These outcomes should not be surprising: globalization, if managed for the 1 percent, provides a mechanism that [...] gives the 1 percent the upper hand not just in bargaining within the firm [...] but also in politics. Increasingly, not only have jobs been offshored but so, in a sense has politics. This trend is not limited to the United States; it is a global phenomenon, and in some countries matters far worse than in the*

⁴⁶ Cf. Braungart/McDonough, p. 60: *'Why does this happen? Because most high-tech products consist of **low-grade material** – that is, **cheap dyed plastic** – that is purchased from low-cost suppliers all over the world and has to be transported halfway around the globe before it reaches the factory.'* Author's emphasis

⁴⁷ Frick/Grabka, p. 60

⁴⁸ HSBC 2011, Die Aktienmuffel

⁴⁹ Domhoff, 2012

*United States.*⁵⁰ To Stiglitz, it is obvious who benefits from common economic theories and the underlying rules of the economic game: '*Of the 1 %, for the 1 %, by the 1 %*'⁵¹ – the wealthiest 1 per cent of society. This is what any social policy reform has to focus on if the very roots of planned obsolescence are to be attacked.

7. Side note: Is planned obsolescence necessary for economic growth and full employment?

No.

Unnecessary labour makes life more expensive for everyone and makes us poorer than we have to be.⁵² Let's assume that all manufacturers in a given industry decide to cut their products' lifespan in half,⁵³ with the immediate effect being that workers in this industry would have to work much harder than before. New jobs would be created. At first glance this sounds like a great way to almost double the number of jobs. At second glance, however, one would have to ask who's to pay.

The cost of this additional labour would be passed on to consumers in the form of higher product prices. The products in question would become far more expensive than before and than necessary. Our real income would decline, and everyone's standards of living would deteriorate. If human labour, time and intelligence is invested in products that are deliberately designed to break down within a short space of time, this constitutes an irresponsible waste of resources that, collectively speaking, would harm us all even though – as discussed above – it would benefit a small number of individuals.⁵⁴

Economically speaking, what would happen if planned obsolescence were abolished? At first, official economic output would decline on paper, while the number of jobs in the industries in question would decrease.

In the medium to long term, the labour that is freed up as a result could be redirected to more purposeful income-producing activities, which would improve everyone's standards of living in real terms. Alternatively, the surplus labour could be used to shorten everyone's working hours without cutting wages and salaries, giving us all more time to spend with family and friends, on volunteering or enjoying leisure pursuits which, again, would improve standards of living for everyone.

The exceptionally negative impacts of planned obsolescence on the **environment** shall remain unmentioned in this paper.⁵⁵

8. Planned obsolescence and advertising

⁵⁰ Stiglitz 2012, p. 138.

⁵¹ Ibid., p. xi; cf. also the title of the first chapter of this book: '*America's 1 Percent Problem*'.

⁵² For details on this, cf. Kreiß, *Wege aus der Krise I*, Was kann jeder Einzelne tun?

⁵³ In fact this was a very serious proposal put forward in 1932 by Bernard London, a wealthy real estate developer from New York City, in a move to improve the devastating economic situation during the Great Depression. He suggested limiting product lifespan **by law**. '*Ending the Depression through Planned Obsolescence*'. Cf. Slade, p. 72-77

⁵⁴ As Slade (p. 6) writes, '*What these approaches [to introduce and enforce planned obsolescence, C.K.] had in common was their focus on a **radical break with tradition** in order to deliver products, and **prosperity**, to the greatest number of people – and in the process to **gain market share** and **make a buck**. Both goals strike us today as quintessentially American in spirit.*' Author's emphasis

⁵⁵ On the resulting mountains of waste, cf., e.g., Dannoritzer, Slade, p. 1-3 or Braungart/McDonough, p. 48: '*Some studies estimate that in the US, more than 90 per cent of materials used to produce durable products go to waste immediately upon production. Sometimes even the products themselves break down shortly after.*' (Braungart/McDonough). Cf. also Schridde/Kreiß 2013, p. 63 ff.

In the case of an extremely common form of planned obsolescence – the kind that is the result of short fashion and model cycles – the customer has to be play along, as demonstrated above. Many manufacturers like to claim that consumers want a rapid succession of new products and that they gladly buy the new products even though their existing product works perfectly well. The terms that come to mind here are throwaway society or throwaway mentality, an attitude that, claim manufacturers, emanates at least to some extent from consumers themselves and may even be a deliberate and universal social phenomenon. The assumption that consumers decide to replace an item of their own free will before they have to shifts the responsibility for this practice from industry to the consumer.

However, how well and how objectively are we consumers informed of a product's main features? How transparent do today's markets appear to the average consumer?

Martin Lindstrom, one of the world's most knowledgeable experts on marketing and author of the best-selling *Buyology*, writes: 'At the age of 66, most of us will have seen around two million TV adverts in our lifetime. That equals eight hours of advertising every day, seven days a week, for six years.'⁵⁶ Every day, we are hit by around 3,000 advertising messages.⁵⁷ According to the German Society of Pediatrics and Adolescent Medicine (DGKJ), a child TV viewer sees between 20,000 and 40,000 TV adverts every year.⁵⁸ Consumers are targeted by a very one-sided flood of product presentations from a very age.

Standard scientific textbooks have shown⁵⁹ that the majority of advertising is not informative but emotional, and they provide detailed instructions on how to shape advertising messages in such a way that they have an emotional rather than informative impact.⁶⁰

Martin Lindstrom provides impressive evidence that advertising is primarily an emotive medium that targets the subconscious, rather than a source of information. For instance, he demonstrates that TV commercials for cars contain no product information; instead, they transport exactly the same kind of purely emotional message no matter what the brand.⁶¹ It is no different when it comes to a highly successful promotional campaign for a well-known soft drink that is broadcast during commercial breaks of one of the United States' most popular TV shows; here, too, the message is pure emotion. No information is provided on the product itself.⁶² He provides a large number of examples that demonstrate that product information has no role to play in successful advertising.

That said, when questioned, 46.2% of Germans said that they considered TV advertising to be 'fairly informative',⁶³ suggesting an interesting misperception.

Here are some figures that illustrate the dominant force of advertising: In 2010, 29.53 billion euros were spent on advertising in Germany.⁶⁴ At the end of 2010 the German advertising industry employed 549,499 people, of whom 187,055 worked in the core advertising business (ad design, advertising clients, distribution of advertising material) and 362,444 worked in the supplier industry (e.g., printers, the paper industry and in telephone marketing).⁶⁵ In addition to these approximately

⁵⁶ Lindstrom, p. 47. Other researchers have worked out that the average TV viewer spends three years of their life watching advertising only (cf. Reuß/ Dannoritzer, p.46).

⁵⁷ Cf. Reuß/Dannoritzer, p. 46

⁵⁸ Cf. DGKJ 2010, 'Over half of all commercials are for confectionery, carbonated soft drinks and snacks.' 'We're even observing that companies and manufacturers are reaching out to an ever younger target group.' (Professor Berthold Koletzko, chair of the nutrition subcommittee of DGKJ).

⁵⁹ Cf. Meffert, p. 740, probably Germany's leading scientific textbook on advertising.

⁶⁰ Cf. also Homburg, Krohmer, p. 795

⁶¹ Cf. Lindstrom, p. 48: *'The brand and the model were different every time, but the actual commercial was the same. The same dynamic images. The same curve in the road. The same desert. The same cloud of dust.'*

⁶² Cf. Lindstrom, p. 57 ff.

⁶³ Die Welt in Zahlen 2012, p. 95

⁶⁴ ZAW 2011, p. 10

⁶⁵ Ibid., p. 86

550,000 people, there are those employees who work in the marketing departments of their employers; for instance, all those staff who work in marketing and advertising inside a large corporation. While it is very difficult to obtain reliable figures for this group, it is estimated that far more than one million employees across Germany work mainly in advertising and marketing related jobs.

Again, it bears repeating that several variants of many technical products are continuously launched on the market, making it difficult for, say, consumer magazines to collect and provide objective information to consumers. This policy of launching a never-ending series of new models, coupled with a constant onslaught of expensive advertising, creates a certain measure of intransparency and confusion among consumers while encouraging them to throw away their existing products and buy new ones.

Manufacturers' claims that consumers are responsible for this throwaway mentality – that consumers actually want a continuous parade of new products and that industry is simply meeting their demands – are clearly unfounded and highly one-sided.

9. Political measures to combat planned obsolescence

Besides the many calls from politicians to limit planned obsolescence, for instance by extending statutory warranty periods or forcing manufacturers to offer spare parts for longer, etc.,⁶⁶ all of which are entirely justified, economic incentives could also help to curb this phenomenon. Two of the main drivers of planned obsolescence are

1. marketing, and
2. the capital market's expectations concerning returns.

Re. 1) Marketing.

Advertising and marketing contribute actively towards psychological obsolescence. One easy way to curb this socially damaging trend would be to impose **advertising restrictions** on certain branches of industry.⁶⁷

In a market system, what would work even more effectively than outright bans is a mechanism involving economic incentives. For instance, a **higher rate of VAT** of initially, say, 25%, could be imposed on all advertising activities that would rise each year according to an announced schedule. This gradual increase in advertising cost would mean that advertising activities would slowly but surely be scaled back, giving the advertising industry plenty of time to roll back its activities systematically and in a socially responsible manner.

Besides limiting planned psychological obsolescence, a reduction in advertising would have the very welcoming effect of gradually lowering the cost of many products and services, allowing real incomes to go up and the quality of life in this country to improve.⁶⁸

Re. 2) Capital market expectations concerning returns

If one were to place a gold coin in front of Scrooge McDuck, he would do anything to get at it. Laws, bans and restrictions that stand in the way of anything will often lead people to find a way around

⁶⁶ Cf. Schridde/Kreiß, p. 75 ff.

⁶⁷ Such advertising restrictions are already in place for many professions in Germany, including doctors, architects, lawyers, etc. Many independent experts are also calling for a ban on advertising that is directed at children: *'In light of existing scientific insights, facts and figures, the Frankfurt-based Future Think Tank is calling for a ban on TV advertising for unhealthy foods that is targeted at children, echoing similar demands from medical associations.'* – Foodwatch Report, p. 45

⁶⁸ Cf. Kreiß, Wege aus der Krise I, 2010

them. However, it would make more sense to create economic incentives that prevent the gold coin from ending up there in the first place.

Translated to our modern-day economic structures, this implies that the capital markets' high expectations of the companies they invest in are often the main trigger for planned obsolescence strategies. Wherever corporate decision-making largely depends on shareholders' expectations of their return on investment (shareholder value concept, economic value-added concept), companies will often be driven towards planned obsolescence. The decisive lever for reducing planned obsolescence, then, would be to reduce the burden of international capital markets' expectations on companies.

This could be done by changing the way our money markets work, for instance by introducing demurrage or limiting the inflow of rent income, that is, income from interest, land rents and dividends.⁶⁹ This would considerably reduce the pressure to generate a profit and possibly eliminate it altogether. By removing the need to turn a profit and generate growth, the actual source of many forms of planned obsolescence would be eliminated too: the obsession of large companies with making a profit. Without such a profound reform of our economic and social systems, it will be impossible to eliminate planned obsolescence for ever.

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⁶⁹ Cf. Kreiß, Profitwahn, and Kreiß, *Wege aus der Finanz- und Wirtschaftskrise*, 2011

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